HOSPITAL ABSTRACTS

A MONTHLY SURVEY OF WORLD LITERATURE

PREPARED BY THE DEPARTMENT OF HEALTH

AND SOCIAL SECURITY

VOLUME 17, NO. 1, ABSTRACTS 1-152. JANUARY 1977

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HOSPITAL ABSTRACTS

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HOSPITALS IN GENERAL

1. EICHHORN-RAAB, E. Die Weiterentwicklung des allgemeinen Krankenhauses. **[The further development of the general hospital.]** *Krankenhaus*, Stuttgart, 1976, Sept., vol. 68, no. 9, pp. 301-308.

The basic principles of hospital planning and design which were considered adequate in Western Germany in the 1960s do not meet present or future needs. Developments in diagnosis and treatment, pre-admission diagnostic tests and convalescent care after discharge, reduced average length of stay and increased bed occupancy have, amongst other things, altered conditions. No longer can the number of beds be regarded as the yardstick of a hospital's activity: a 600-bed hospital of the future will be able to treat annually the same number of in-patients as an 800-bed hospital up till now. Diagnostic and treatment departments must be geared to treating more out-patients and hospitals should become centres for health services as a whole rather than concentrating on in-patient treatment only. There must also be much greater flexibility in the use of wards, both as regards the type and sex of patients treated. The best use of hospitals requires that their services be organized on a regional basis.

HOSPITALS IN OTHER COUNTRIES

See also Abstract No. 65

2. DRAGASCHNIG, A. Das österreichische Krankenhauswesen—eine kritische Auseinandersetzung. **[Austrian hospital services—a critical analysis.]** *Österreichische Krankenhaus-Zeitung*, Wien, 1976, Sept., vol. 17, no. 9, pp. 443-444, 447-455.

Austria, with 285 hospitals and 75,000 beds, has one hospital bed for each 92 inhabitants: this figure is well above the average for European countries but it is nonetheless often difficult to find a bed for an urgent case. The total income of publicly-owned hospitals, which have 82 per cent of all beds, comes from a number of sources but fails by 18 per cent to cover all expenditure. Between 1973 and 1975 hospital costs increased by 50 per cent: public debate rages as to who is to make up the deficit. The author of this paper, who is director-general of the Association of Austrian Social Insurance Organizations, maintains that it would be unfair, and indeed impossible, for health insurance bodies to increase their contributions to hospitals as is demanded in some quarters: they could only do so by increasing employee contributions (which are fixed by the State). This would lead to higher wage demands and a further rise in costs. Taxation would be a fairer means of increasing hospital income. One of the difficulties is that existing hospital legislation divides responsibility between the State and provincial governments and until this responsibility is more clearly defined and more sensibly apportioned a solution to financing problems will remain difficult.

3. PHILLIPS, D. F. and SPRAGUE, J. G. **Hospital regulations reach a collective critical mass.** *Hospitals*, Chicago, 1976, July 16, vol. 50, no. 14, pp. 63-68; Aug. 1, vol. 50, no. 15, pp. 78-82.

Increased concern for safety and cost containment has resulted in a proliferation of regulations for the health care industry in the United States. Expansion into the fields of health, welfare and environmental control by government agencies has produced more legislation. Methods of enforcing regulatory control have increased whilst public attitudes have changed. The most complex sets of regulations affecting hospitals are those associated with the design, construction and maintenance of facilities. Regulating agencies differ substantially in their standards and in their interpretation of the codes. Consequently, the codes need to be re-designed and re-written to meet a defined acceptable level of risk. Cost-effectiveness has been largely ignored. The need for some controls in health care is acknowledged. The importance of timing in influencing the development of codes and standards at the early stages is discussed, together with the need for hospital representation on code-making or standard-making bodies. The problem of inadequate representation has resulted in the American Hospital Association setting up new programmes to solve the situation. Future state and federal reforms are outlined. The recommendations of the AHA for legislation providing congressional review of administrative rule-making are discussed.

PLANNING, DESIGN AND CONSTRUCTION

See also Abstract No. 67

4. KROLL, F. and LANGE, S. Durchführung von Krankenhausprojekten aus der Sicht des Trägers. **[Management of hospital projects, as seen by the responsible authorities.]** *Krankenhaus*, Stuttgart, 1976, Sept., vol. 68, no. 9, pp. 308-318.

These proposals for the planning and execution of hospital building projects are based on the successful methods adopted for the 1,100-bed Ingolstadt Hospital, now under construction, and are put forward as a basis for further discussion on improving hospital planning techniques. The project team, consisting of hospital authority representatives, architect, expert advisers, and project supervisor (the two latter as independent experts) worked together from the start with a minimum of red tape and were able to reduce the total planning time to eight months. The stages (target planning and programming, sketch plans, detailed plans, work planning, construction and commissioning) can overlap and thus save much time and expense. It is important that the duties and responsibilities of each member of the team are clearly defined. The work of the committees and of their individual members, including relations with the local authority, is described in detail.

5. COCKING, J. **The use of isochrones in health service planning.** *Hospital and Health Services Review*, London, 1976, Oct., vol. 72, no. 10, pp. 353-354.

An isochrone is a line joining all places of equal travelling time from a defined location. Isochrones can illustrate the accessibility of a service to the local population, and the Norfolk Area Health Authority has used them to illustrate private car,

ambulance and hospital car travelling time. Isochrones can be constructed for public transport but it is necessary to combine them with bus and train frequency diagrams. In order to make isochrones generally available for use in Norfolk an isochrone kit has been constructed. Complete isochrones in 'ripple' fashion at 10-minute intervals have been constructed for each hospital and drawn on acetate sheet with different colours for each institution. These are mounted in a ring binder together with a map of appropriate scale. One institution can be related to another by overlaying them on the map. Where there is parking and access difficulty at a hospital an allowance has been incorporated in the 10-minute isochrone. Experience has shown that enough information is acquired in a few hours to construct isochrones for one hospital; travelling expenses can be minimized by careful planning, timing being made to points at which routes diverge. Successive timing over the same route may differ, and there is a subjective element involved in the positioning of each isochrone. Hospital Activity Analysis data can be used to indicate the actual catchment area of a hospital or specialty.

6. MANO, P. Le plan directeur: un instrument actualisé au service d'une prévision concertée des objectifs de développement de l'enterprise hospitalière. **[The master plan: an instrument used to forecast the development objectives of a hospital enterprise.]** *Techniques Hospitalières*, Paris, 1976, Aug./Sept., vol. 31, nos. 371/372, pp. 61-62, 67-71.

The master plan represents the hospital's strategy in relation to future investment. Its tactics are the detailed technical programmes for each investment project. The strategy requires careful and co-ordinated planning and forecasting of hospital requirements in terms of land, buildings, and equipment. This in turn entails a quantitative and qualitative analysis of the existing buildings and equipment and an examination of the possibilities of renovation or reconstruction. Co-ordination with other hospitals in the region and with local town planners is also necessary. At the level of the individual hospital the possibility of increasing efficiency through automation should be studied, a list of priorities should be drawn up using simple models to explore the advantages of a given choice, and heads of departments and members of staff should be consulted.

DETERMINING SIZE OF HOSPITAL AND BED NEEDS

See Abstract No. 132

BUILDING: TENDERING, ETC.

See Abstract No. 4

HOSPITAL DESIGN

See Abstract No. 1

DESIGN OF INDIVIDUAL GENERAL HOSPITALS

7. BETHUME, E. L'hôpital civil du Sacré-Coeur à Marchienne-au-Pont. **[Sacré-Coeur Civil Hospital, Marchienne-au-Pont.]** *Hôpital Belge: Het Belgisch Ziekenhuis*, Bruxelles, 1976, July/Aug., vol. 19, no. 122, pp. 15-24.

Eight photographs and two plans accompany this account of the reconstruction of the Sacré-Coeur Civil Hospital which is taking place partially on the site of the old hospital and while the latter is still in use. The first stage of the reconstruction, the surgical wing, became operational in 1975. It is a six-storey building with 60 beds (eight four-bed, eight double and 10 single rooms, and two suites) and three operating theatres. It also houses the diagnostic X-ray department, main reception hall, and emergency and out-patient departments. The second stage, which will be started in 1976, will be a five-storey wing with 62 beds and a six-bed intensive care unit adjoining the operating block. The interior of the new wing is bright, comfortable, and colourful and every effort has been made to reduce noise levels.

8. JENSEN, I. L. and BISGAARD, J. Kolding Sygehus—et nyt sygehus taget i brug 9.9. 1975. **[Kolding Hospital—a new hospital came into use 9.9.1975.]** *Tidsskrift for danske Sygehuse*, København, 1976, Sept., vol. 52, pp. 148-154.

Construction of Kolding Hospital (architect: J. Bisgaard) was begun in 1968 and the buildings were opened in 1975. The hospital acts as the local hospital for an area with a population of 100,000, and as the regional orthopaedic, ophthalmological and paediatric centre for some half a million people. Construction and equipment together cost d.kr. 145 million (£13 million). The new building complex has three storeys, the basement and associated tunnel system connecting all blocks. Lines of communication are simple and divided by storey as follows:— goods in the basement tunnels; visitors on the ground floor; and patients and staff on the first (top) floor. The paper is illustrated with a cut-away plan, four exterior and 10 interior photographs.

DESIGN OF SPECIAL DEPARTMENTS

9. CARPENTER, R. B. **Organizing, financing options for medical office buildings.** *Hospitals*, Chicago, 1976, July 16, vol. 50, no. 14, pp. 79-84.

The development of the hospital-based medical office building (MOB) is outlined. The MOB reduces doctors' commuting time and encourages maximum use of the equipment and staff; it can be hard to finance and organize. Alternatives for the MOB system are: hospital ownership; sale or lease to third-party investor; sale and leaseback; and sale or lease to physician owners. The choice of alternatives is considered. The hospital must assess whether: (i) it requires complete control over the project; and (ii) it can finance the project. The doctors' attitudes towards the hospital as landlord, together with price and tax considerations should also be discussed. Financial alternatives available are: conventional mortgage loan; interim loan; and tax-exempt bonds. A market analysis of the scheme should be carried out to assess the possible need, use, size and legal aspects. With the information produced from the analysis the hospital will have a good idea of the prospective MOB and know that it will be financed to meet the needs of the hospital and its medical community.

10. DIAZ, J. R. **Medical office buildings demand difficult construction decisions.** *Hospitals*, Chicago, 1976, July 16, vol. 50, no. 14, pp. 89-93.

A hospital-related medical office building (MOB) project is more complicated than one for a hospital addition of equal size. The array of alternatives for financing, organizing and building an MOB requires a plan that can react to changes in the real estate, financial and construction market places. The selection process requires careful analysis of many complex issues. The basic issue in selecting a project development team is between a group of independent consultants and a developer who takes nearly all responsibility. Few owners have the skills to undertake the entire project alone. A contract may be made with a third-party developer who has the advantage of shorter time schedules. A market feasibility study should be carried out. The contractual methods of delivery are considered. The guaranteed maximum price should be established for the project through competitive bidding. Further aspects for consideration are: competitive rental; and project savings through careful design. Limiting the function of the MOB to the treatment of ambulatory out-patients is vital to ensure an economically feasible building.

11. OLIEMANS, A. M. Een veilige, doelmatige laboratoriuminrichting door vroegtijdige inschakeling van adviseur. **[A safe, suitable laboratory building is the result of early discussion with a building consultant.]** *Technische Gids voor Ziekenhuis en Instelling*, Amsterdam, 1976, Sept. 28, vol. 45, no. 1111, pp. 555, 558.

Early discussions between future user, building consultant and building team are essential in planning a laboratory. They should cover the following aspects: type of laboratory; floor area and total capacity; position and dimensions of doors and windows; points for water, gas and electricity; ventilation and heating; discharge of fumes; number of staff working in various areas; activities, routes, size of apparatus; storage; type and height of work surfaces; and possible future expansion. Safety is a special problem and should cover fire regulations, portable fire extinguishers, emergency exits, showers, provision for eye washes, site of main cocks, etc. The norms for a minimum working area and a tight budget can still be impediments to maximum safety, but standards are rising and inspections becoming more strict.

12. JENSEN, A. M. Laboratorium for medisinsk mikrobiologi—mikrobionomens syn. **[A laboratory for medical microbiology—a microbiologist's view.]** *Sykehuset*, Oslo, 1976, vol. 39, no. 5, pp. 264-268.

The main requirement for a new laboratory building is flexibility. There must be no thresholds or steps, since internal transport is by trolley; there should be short lines of communication to centralized facilities, and these services need plenty of room. The specimen-reception room should be sited centrally. Details of the rooms required are given. Gas, water and power mains should be readily available, and the power supply must be adequate to meet future demand. Technical facilities required are steam, compressed air, vacuum, good ventilation, air extraction, individual lighting at each work-space, and bactericidal ultraviolet lamps. Benches should be at a height of 75 and/or 90 cm., depending on whether the relevant working position is sitting or standing. Hygienic hand washing facilities are essential. Automated machinery can be very noisy and should operate behind glass walls. Rooms in which it is dangerous to remain for longer periods should be fitted with alarms. It is necessary for all staff groups which are to work in the laboratory to co-operate in the process of planning.

DESIGN OF SPECIAL HOSPITALS OR UNITS

13. Interconfessioneel verpleeghuis 'Randerode' te Apeldoorn. **[Randerode Interdenominational Nursing Home, Apeldoorn.]** *Technische Gids voor Ziekenhuis en Instelling*, Amsterdam, 1976, Oct. 12, vol. 45, no. 1112, pp. 588-590.

This new 358-bed nursing home (architects: Van den Broek and Bakema, Rotterdam) co-operates closely with the nearby Lukas Hospital, opened in 1975. Co-ordination of building plans enabled sharing of the 'total energy' system and part of pharmacy, laboratory and technical services. The basement accommodates central kitchen, stores, laundry and technical offices; the ground floor administrative offices, service kitchens, physiotherapy department, recreation room, day-rooms, shop, hairdressing saloon and a 60-bed unit; the first floor two 60-bed units, consulting rooms, dental unit, nursing assistants' training school; and the second floor two 60-bed nursing units, staff dining-room, library and terrace. The south wing has a third floor with another nursing unit. Each nursing unit comprises two 30-bed sections with a central nurse station, dining-room, day-room, consulting rooms, sister's office and attractive lounge/hall. There are in total 118 beds for general and 240 beds for mentally disturbed patients. Some details are given of heating, ventilation, electrotechnical installations, nurse call system, radio relay, bed panels and fire precautions. Five photographs are included, but no plans.

NURSES' HOMES

14. **Sunny stories.** *Nursing Times*, London, 1976, Oct. 14, vol. 72, no. 41, pp. 1588-1589.

The Evelyn Nursing Home, Cambridge, has won an award for the design of its new hostel (architects: Cambridge Design). The building, sited in a large mature garden, is composed of two wings, each wing having two bed-sitting-rooms and a flat on the ground floor, with four bed-sitting-rooms on the first floor. The lower rooms have sliding windows which lead directly onto the garden, but the upper rooms have inverted dormer windows. Each set of four rooms has its own bathroom, kitchen and toilet leading off the corridor. These receive sun diverted in through windows high above the central corridors of the two wings. Each room is fitted with a washbasin and wardrobe with a convector heater under the window. The internal decoration comprises smooth unpainted timber, orange blinds and gold carpeting with white walls. The bathrooms are panelled in cork. The exterior of the building is of grey slate and the staircase at the centre is open and surrounded by glass giving an impression of transparency.

ENGINEERING SERVICES

INSTALLATIONS IN GENERAL

15. TREMOLIERES, J. La biotechnique: médecine technique ou technique médicale? **[Bio-engineering: technical medicine or medical technology?]** *Techniques Hospitalières*, Paris, 1976, Aug./Sept., vol. 31, nos. 371/372, pp. 77-80.

A brief outline is given of the development of bio-engineering. An attempt at

classification is made in the form of a figure from which it can be seen that 33 medical specialties can avail themselves of the services of 16 technical disciplines (from electronics to radioisotopes and ultrasonics). Technicians in these fields must be highly qualified and work in a team with the medical specialists. Expansion in bio-engineering has been very rapid—in electronic equipment alone, for example, hospital investment has increased five-fold between 1967 and 1975. There is now a need for standardization and the licensing of equipment.

ELECTRICAL INSTALLATIONS AND EQUIPMENT

See Abstract No. 119

TRANSPORT IN GENERAL

16. LISTER, W. Horizontaal en verticaal transportsysteem. [**A horizontal and vertical transport system.**] *Technische Gids voor Ziekenhuis en Instelling*, Amsterdam, 1976, Oct. 12, vol. 45, no. 1112, pp. 599, 601.

Herlev Hospital, Copenhagen, still under construction, comprises a 16-storey ward block, adjoined by a low-rise treatment block and a five-storey service block. The lift system in both ward and service blocks contains two lifts continually in operation. Through the three central buildings runs a tunnel as part of a built-in transport system to be installed by the British firm Sovex Marshall. The 730 m. long installation will provide for closed containers with a maximum load of 35 kg. travelling at a speed of 30 m. per minute along a conveyor belt through the tunnel. The containers are marked with code reflectors for selection by photoelectric 'eyes' at the automatic loading spots situated en route and at junctions of tunnel and lifts. Adapted for hospitals, the containers are designed for hygienic maintenance and are larger than those used in similar systems for transport of documents in offices and banks. The paper includes one diagram of the system.

HEATING

17. BOSTRÖM, T., SANDBERG, L. and SÖDERGREN, D. Sundsvalls sjukhus. [**Sundsvall Hospital.**] *VVS Tidskrift*, Stockholm, 1976, Feb., vol. 47, no. 2, pp. 22-31, 47.

Heat is distributed throughout the new Sundsvall Central Hospital (one of the largest in Sweden) [see *Hospital Abstracts*, Vol. 7, Abstracts 20, 1267 and Vol. 10, Abstract 1736] in the form of ducted hot air. Apart from a few secondary rooms, there are no radiators. The advantages are: no heating and circulation of hot water; increased flexibility; improved use of floor space; rapid temperature adjustment; and reduced temperature differentials in individual rooms. Heat is exhausted from the rooms through the Venetian blind space between the double glazing, reducing heat gradients and heat losses. The air intake to each room has a thermostatically controlled electric heating element installed, permitting rapid heating if necessary. The basic temperature aimed at is 18°C in unoccupied rooms, with 22° in occupied rooms in winter and 26° in summer. Air drawn in from the outside by fans is pre-heated by the exhaust air in

50 Munters Econovent heat exchangers (which work at 70 per cent efficiency), filtered, heated and distributed through the duct system. Cooling facilities are also installed in the fan systems supplying the south and west sides of the building. Air is humidified to 35 per cent RH for surgical departments, with a facility for increasing the humidity to 60 per cent RH in each operating theatre. The cost of heating and ventilating the hospital (plus college of nursing and central kitchens) is s.kr. 2.6 million a year, as against an estimated s.kr. 6.0 million without the heat exchangers, which cost s.kr. 2.7 million to install in 1974. The paper is illustrated with an aerial view of the hospital plus cut-away diagrams of the entire system and its individual constructional details.

VENTILATION AND AIR-CONDITIONING

See also Abstract No. 17

18. DONNEAUD, J. Un système cohérent de traitement de l'air anti-pollution: le biogénérateur d'air. **[A coherent system for anti-pollution treatment of air: the air biogenerator.]** *Gestions Hospitalières*, Mantes, 1976, Aug./Sept., no. 158, p. 633.

The air bioregenerator operates on the principle of continuous recycling and uses very little energy (less than 0.20 watts per cu. m. of treated air). It draws in the air at the level of the zone of highest dust sedimentation, pretreats it on mechanical filters, and passes it through a high-efficiency electrostatic filtration apparatus which contains an ozonation chamber and post-filters. The air then crosses active carbon absorbers which intercept gases and odours and is propelled by centrifugal fans through electrolytic ionization chambers where it is charged with oxygen negative ions. It finally re-enters the building through diffusers.

MAINTENANCE OF BUILDINGS AND EQUIPMENT

19. HARSHBARGER, D. E. and SAINITZER, G. H. **Smaller hospital establishes inhouse equipment program.** *Hospitals, Chicago*, 1976, Aug. 1, vol. 50, no. 15, pp. 183-184, 186, 188.

Northwest Hospital, Seattle, Wash., carried out a study of the costs of routine maintenance and repairs of biomedical electronic equipment. The study revealed that potentially significant savings would result by changing from contract maintenance and on-call repair services to an in-house system. Cost factors were assessed using two conditions: (i) the amount of biomedical electronic equipment would increase; and (ii) service costs would soar. The study revealed that departments could expect an in-house technician to provide a faster, more efficient service with regular safety checks at a less prohibitive rate than that supplied through contract maintenance. The contract costs were analysed. The in-house service includes repairs on all types of equipment except equipment in the radioisotope scanning areas, X-ray equipment, and new equipment under guarantee. The department consists of a technician and a part-time helper who have improved the service at a far lower cost than that projected for like services. Pressure to buy more equipment to cover the time that existing equipment is out of use, has fallen since the hospital set up its own maintenance scheme. Use of the equipment has improved. Frequent contacts between departments and the technician

have improved communications, and guidance given by the technician in analysing equipment needs, types and expected life can help clinical departments choose the most appropriate equipment for their needs.

20. CLARK, S. **A maintenance consumers' group?** *Hospital Administration in Canada*, Don Mills, Ont., 1976, Aug., vol. 18, no. 8, pp. 35-36.

If maintenance is ignored in building design, the hospital's operating costs will go up; new buildings should solve maintenance problems, not create them. It is proposed that hospital engineers should form a consumers' group to monitor mechanical design and upgrade its quality. An example of how a typical maintenance problem begins on the mechanical consultant's drawing board is given. A hospital engineer's commitment to evaluate new hospital construction based on long-term maintenance costs appears a simple and straightforward concept, but it has a few problems which are discussed. An inspection should be made by a team of three or four hospital engineers with the practical knowledge of where to look for maintenance problems. The inspection technique would have to be the same for each hospital; this could be accomplished by a comprehensive check list of perhaps 40 or 50 items. From this a numerical rating could be developed to make comparison easier.

EQUIPMENT, FITTINGS, FURNITURE

ELECTRONIC EQUIPMENT

See Abstract No. 109

STAFF GENERALLY

21. PÖDER, R. Personelle und gesellschaftliche Probleme bei der Führung von Krankenanstalten aus der Sicht des Dienstnehmers. **[Personal and organizational problems of hospital management as seen by the employee.]** *Österreichische Krankenhaus-Zeitung*, Wien, 1976, Oct., vol. 17, no. 10, pp. 479-484, 487-488.

The author, who is chairman of the Austrian union of municipal employees, discusses some of the problems of hospital staff. Even though it is now possible for 15-year-olds to start a four-year course in nursing (382, mostly girls, are at present taking the course) it is going to be difficult to replace normal wastage, particularly as reduced working hours, longer leave, increased welfare payments for mothers, and other benefits have their effect. More schools of nursing are needed as well as facilities for further training for administrative staff. The question of staff participation in management is also discussed: staff should be represented on management committees as is the case in industry.

22. MORK, T. Personalsituasjonen innen norsk sykehus- og helsevesen. **[The staffing situation in the Norwegian hospital and health services.]** *Norsk Sykehustidende*, Oslo, 1976, Sept., vol. 49, no. 9, pp. 163-166, 168-170.

In 1975 a total of 77,000 man-years' work was done in the Norwegian health service, a 10 per cent increase on the year before and five per cent of the gross national work

effort. The wage bill for health institutions of all types in 1974 was n.kr. 3,900 million (about £300 million). The health sector is still very understaffed; services cannot be expanded to the extent planned, and waiting lists are long. Counties have applied to government for permission to establish 7,000 posts in 1976, or 70 per cent of the net intake to the labour market. There are enormous differences between the levels of medical service offered to the population in the highly populated and the thinly populated parts of the country. Limited resources of staff and money require the service to operate at increased efficiency. The number of nurses per bed in the surgical departments of county hospitals varies from 0.79 to 0.27 and on the medical wards from 0.77 to 0.33. New institutions will have to be planned which use, train and re-train staff much more effectively. Developments in Norway are now headed towards: equality of services offered; greater concentration on preventive medicine; regionalization (decentralization) of administration coupled with the application of the lowest effective level of care principle; and a gradual increase in the general standard of the service, e.g. towards 4.5 general hospital beds per 1,000 of the population, more nursing homes, psychiatric and mental handicap clinics, and more doctors and ancillary staff.

STAFF COMPLEMENTS

See also Abstract Nos. 28, 34, 72

23. MONTFORT, A. P. W. P. van and SPAAN, J. M. Groei personeelssterkte in intramurale zorg sterk toegenomen. **[Noticeable growth in hospital staffing strength.]** *Ziekenhuis*, Utrecht, 1976, Sept. 15, vol. 6, no. 18, pp. 465-467.

Research was carried out into the growth of staff in various types of hospitals and nursing homes during the period 1971 to 1975. Up to 1974 there was a general decrease in the yearly rate of growth from 6.9 to 2.7 per cent, but for 1975 the rate increased again to 4.7 per cent. Distinction was made between growth through change in the number of beds and growth through change in the number of staff per 100 beds. It was found that for 1975 staff growth was entirely due to an increase in the number of staff per 100 beds. This was in contrast with the previous years which showed a decrease in the rate of growth of both number of beds and number of staff per bed. Estimated total staff in all institutions increased between 1972 and 1975 from 178,340 to 200,120, which is 12.2 per cent. Analysis of different categories of staff also showed that most increases were found among those with higher than average salaries. The paper includes four tables and a diagram.

RECRUITMENT

See Abstract Nos. 27, 37

STAFF MANAGEMENT

See also Abstract Nos. 35-37, 94

24. Inschakeling van part-time krachten in ziekenhuizen. **[Use of part-time workers in hospital.]** *Instelling-Management*, Amsterdam, 1976, Sept. 29, vol. 8, no. 9, pp. 14-15.

This paper suggests that there is a pool of skilled labour among housewives, pensioners,

etc., willing to work in part-time, responsible, hospital jobs. Advantages of employing such labour would be greater flexibility of working hours, greater efficiency by employing two part-time instead of one full-time worker, employing extra part-time staff at peak hours and holding stand-by, part-time workers on reserve. Also, the turnover of part-time workers has proved less than that of full-time staff, they are less tired than full-time employees working overtime and are more flexible in experiments with new techniques and in emergencies. The salaries of two part-time workers equal that of one full-timer, training two costs as much as training one, and overmanning at slack hours or overtime payments for full-time employees could be eliminated.

STAFF TRAINING

See also Abstract Nos. 29, 30, 38-41, 113

25. EKSTRÖM, H. and ANDRÉHN, I.-L. Fadderverksamhet på vårdavdelningar för sjukhemsvård—ett försök att underlätta anpassningen och inskolningen av nyanställd personal. **[Sponsorship in the hospital unit—an experiment in facilitating the adaptation and instruction of new staff.]** *Sjukhuset*, Göteborg, 1976, vol. 53, no. 9, pp. 471, 473.

Högsbo long-stay hospital, Gothenburg, gives new staff a five-day introductory course in the organization of the hospital, the work carried out, and patient care. In addition, the new member of staff is placed under the tutelage of a trained 'sponsor' from the ward or department concerned. The aim is to assist the new employee to adjust quickly, relieving ward staff of the task of carrying ineffective recruits for a period. Two 'sponsors' were appointed from each of the seven departments and trained on a five-day course similar to that given to new staff, with lectures from tutors, personnel managers, physiotherapists, occupational therapists and secretaries. In addition, there were panel discussions with doctors, psychologists, administrators, nurses and sister tutors. The items of main interest were patient and staff psychology, particularly in association with terminal illness. New staff were asked to fill in a questionnaire about the results of the sponsorship programme. Most found it good to very good, the most important aspects being methods of work, hygiene and information on the treatment of individual patients. Of the 13 sponsors still at the hospital, nine returned the questionnaire; all stated that they would like to continue as sponsors and regarded the system as very useful. The main difficulty is fulfilling one's normal responsibilities while at the same time acting as sponsor. The system will be assessed again when it has had longer to operate.

SPECIAL CLASSES OF STAFF

ADMINISTRATIVE AND CLERICAL STAFF

26. CLARK, A. R., SHELDON, A. and MCLAUGHLIN, C. P. **Policy-making, medical ethics, and health institutions: the roles of physician and manager.** *Ethics in Science & Medicine*, Oxford, 1976, Sept., vol. 3, no. 3, pp. 165-178.

Questionnaires, based on a Delphi process, were given to 184 senior health managers to assess their attitudes and theories about their own role in the policy-making process

within their own institutions. The questions were based on several assumptions: (i) the concept of medical ethics covers more than the individual doctor-patient relationship; (ii) health managers are hampered in achieving many of their goals; (iii) need to comply with federal regulations; (iv) organization's financial stability; and (v) need for more authority to determine and implement policy. The questionnaire covered three areas: issues; policy areas; and obstacles confronting health managers. The results were analysed, and indicated that formerly fixed relationships appear to be opening up and becoming more amenable to change, and that managers are now willing to accept more responsibility. The implications of the study outside the United States are considered.

27. EVERS, H. **When a secretary is tied up in the knots of conflict.** *Health and Social Service Journal*, London, 1976, Oct. 15, vol. 86, no. 4512, pp. 1854-1855.

In a large district general hospital the average number of secretaries at any time over a five-year period was 20; 32 left, 62 per cent of them for non-domestic reasons. The tasks performed by medical secretaries are: (i) information processing; (ii) information monitoring; and (iii) communications filter. Possible reasons for the high turnover of staff are suggested. The organizational structure relating to medical secretaries is unclear: they are primarily responsible to the consultant but also responsible to the medical records officer. Areas of satisfaction and dissatisfaction with their work are discussed. Difficulties of work planning are exacerbated by work overload and the accompanying stress. The problems of role ambiguity and interpersonal conflict are considered in the light of contrasting control structures operating in respect of administrators and consultants. The minimum requirements needed of an administrative manager in order to reduce role conflict and stress are: to initiate recruitment procedures and participate with the consultant in selection; monitor and check the level of provision of secretarial services; collaborate with consultants in reviewing policy and priorities; provide the necessary equipment and resources; initiate problem solving activities; and arrange for cover for sickness and absence.

MEDICAL STAFF

See also Abstract Nos. 26, 46, 95, 130

28. PECKER, J. L'impasse. **[Deadlock.]** *Gestions Hospitalières*, Mantes, 1976, Aug./Sept., no. 158, pp. 623-628.

Since the university hospitals were created in France in 1958 the professors in the faculties of medicine have been appointed to full-time posts and they are expected to divide their time between the hospital and the university, i.e. between treatment, teaching, and research. Their salaries are paid by the university which also creates new posts when it considers them to be necessary. Since the needs of hospital and university are not the same, this has led to serious imbalances; from the hospital's point of view there are not enough posts for geriatricians, radiologists, or neurosurgeons. Although the number of medical students has risen by almost 100 per cent over the past 10 years the number of new posts has increased by only 51 per cent; moreover, the university tends to ignore the needs of postgraduate teaching. The author discusses various solutions to the problem and suggests the creation of a central body for the financing

of new posts. This body would have a clearer view of the triple function (treatment, teaching, research) of the members of the medical faculty than the university appears to have.

29. HATTINGA VERSCHURE, J. C. M. Studentprogram for sykehusvitenskap ved Utrecht Nasjonale Universitet. **[Training programme in hospital sciences at Utrecht National University.]** *Sykehuset*, Oslo, 1976, vol. 39, no. 5, pp. 238-242.

Hospital science constitutes an attempt to evolve an integrated view of the complex network of systems which comprise a hospital. The Institute for Hospital Sciences, Utrecht, offers three types of teaching programme: (i) a voluntary introductory course of 40 afternoons, for third-year medical students; (ii) a postgraduate seminar and symposium programme; and (iii) an experimental fourth- or fifth-year course in hospital sciences as a subsidiary subject towards various degrees. A group under (iii) meets one morning and one afternoon a week for a year. After a month's introductory lectures the students select an area for a seven-month study, read the literature, prepare and deliver illustrated lectures on the topic concerned, and discuss conclusions. The year concludes with a study of a project in small groups, the projects being of two types: a given problem is tackled using given methods in a real, available field; or a method of investigation is designed to study a sector of problems selected by the student. The formal aim of the programme is to contribute to a study of hospital science as a subsidiary subject at final degree level in a number of faculties; the functional aim is to train students to act in a subsidiary academic post in clinical health organizations. Postgraduates aiming for leading positions in health administration must attend courses of further study, since the study group does not cover competence for this level of responsibility.

30. ROYER, C. J. Studenter og sykehus: undervisningsprogram ved Institutt for sykehusvitenskap, Amsterdam Universitet. **[Students and the hospital: the teaching programme of the Institute of Hospital Sciences, Amsterdam University.]** *Sykehuset*, Oslo, 1976, vol. 39, no. 5, pp. 229-237.

The aim of the Institute of Hospital Sciences is to give all Dutch medical students a clear picture of the present and future situation and function of the hospital in the health system. The four methods used are: (i) one afternoon a week for 10 weeks, for fourth-year medical students; (ii) a five-day seminar for final-year medical students; (iii) voluntary service as nursing auxiliaries for medical students during a summer vacation; and (iv) multidisciplinary study groups. A parallel course is also offered in hospital and health service administration. The final year medical students' course involves: (i) basic internal hospital organization; (ii) hospital staff categories and industrial relations; (iii) staff health in the hospital; (iv) follow-up in medical psychology; (v) hospital hygiene; (vi) law; (vii) health insurance; and (viii) hospital economics. The syllabus of the multidisciplinary study group course covers: basic health care; general organization of the Dutch health service; finance; health services of other countries; law; basic hospital organization; and the planning of health care systems.

31. KESSLER, M. S. **Survey compares medical staff organization in teaching and nonteaching hospitals.** *Hospital Medical Staff*, Chicago, 1976, Aug., vol. 5, no. 8, pp. 18-24.

A survey of medical staff was carried out in 1973 by the American Medical Associa-

tion to obtain information about existing organizational patterns and to supply baseline information needed for observing subsequent trends in the way governing boards, administrators and medical staff work together. The results of the survey indicate that many elements of professional and administrative organization are common to both teaching and non-teaching hospitals. Differences may be related in part to the number of medical staff since the teaching hospital tends to exceed by 50 per cent the number of doctors in a non-teaching hospital of comparable size. The assumption that teaching hospitals are more ready to establish contractual relationships with doctors was not substantiated by the survey. Hospitals were found to be more congruent by factors of size than by their classification as teaching sites. The majority of teaching hospitals have a higher amount of management and administration and are formally departmentalized. Medical staff are more closely identified with the governing boards in non-teaching hospitals, and are more frequently included as trustees.

32. HERDMAN, J. **Surgical workloads in British Columbia.** *Canadian Medical Association Journal*, Ottawa, 1976, Sept. 4, vol. 115, no. 5, pp. 462, 464-466.

A one-year study was carried out of the work load of 40 surgeons in district general hospitals and 38 in community hospitals in British Columbia outside greater Vancouver and greater Victoria. Their work was analysed using a relative value unit measurement. The results indicated no significant difference between the total work loads of the two groups, although the surgeons in the larger hospitals did less subspecialty surgery and more general surgery. The proportion of income earned by operative surgery varied considerably among the individual surgeons, but there was no significant difference between the two groups as a whole. The results must be considered in the light of the sparsely populated areas and transport difficulties. Nevertheless those responsible for health planning should be concerned with the low work load of many of the surgeons and the amount of subspecialty surgery done by general surgeons. The patterns of practice varied greatly. Studies of future manpower needs should therefore consider the types of practice of individual surgeons. The methodology could be used to study other groups of physicians in other settings.

NURSING STAFF

See also Abstract Nos. 21, 88, 89, 100, 143, 144, 146

33. DECHANOZ, G. Les soins infirmiers au Québec. **[Nursing care in Quebec.]** *Gestions Hospitalières*, Mantes, 1976, Aug./Sept., no. 158, pp. 649-654, 657-663.

The author spent three weeks nursing at the Institute of Cardiology, Montreal. She describes the management structure, operating conditions, structure of the nursing service, patient care and division of tasks between members of the nursing team, and staff training. She was particularly impressed by the quality of nursing care. The nurse, who is usually in charge of only about five patients, has to maintain the patient's Kardex summary, medical record, and nursing history in which the patient's basic needs are reviewed and the appropriate care planned so that the patient can be given the information and training which he requires while he is in hospital. Appendices to the paper include diagrams of the management structure, the structure of the nursing service, a comparison of French and Canadian salary scales, and a statement of the Institute's philosophy of nursing.

34. DiMarco, N. and others. **Nursing resources on the nursing unit and quality of patient care.** *International Journal of Nursing Studies*, Oxford, 1976, vol. 13, no. 3, pp. 139-152.

A study was performed to examine the relationships between quality of patient care and a number of nursing resource variables. The study was conducted in a 300-bed hospital in the mid-west of the United States. The methodology used is described. The following relationships were found: (i) the quality of the nursing care plan was negatively related to the number of part-time student nurses, full-time aides, part-time registered nurses (RNs) and full-time RNs; (ii) the quality of the nursing record was negatively related to the number of part-time RNs and full-time student nurses; (iii) the quality of the nursing care at the bedside was negatively related to the number of full-time student nurses and number of patients on the ward; and (iv) the total quality of nursing care was negatively related to the number of full-time student nurses, part-time RNs, part-time student nurses, full-time aides and full-time RNs. The results are discussed in terms of the effects various nursing resources have on the performance of the RN.

35. Jones, D. and Rogers, A. **Nursing staff appraisal in the health service: a study of the system; final report to the National Staff Committee for Nurses and Midwives, April, 1976.** London, Polytechnic of Central London, 1976, xi, 72pp.

A scheme of staff appraisal for nurses and midwives in the National Health Service was implemented progressively from 1971 onwards, following the adoption by individual hospital management committees of a Salmon structure for nurses. This is the report of a study undertaken to review the existing scheme and to recommend changes. The report is in five parts: (i) a statement of the basic principles and objectives of staff appraisal; (ii) interpretation of appraisal objectives by those responsible for implementing the scheme; (iii) an estimate of the present coverage of the scheme in England, together with descriptions of the practices and procedures adopted; (iv) a more detailed review of the appraisal form and its use; and (v) a more detailed review of the appraisal interview.

36. Boyarski, R. P. **Nursing workweek equalizes shifts, time off.** *Hospital Progress*, St. Louis, 1976, July, vol. 57, no. 7, pp. 36-37, 40, 45.

The Division of Nursing, Mercy Medical Center, Dubuque, Iowa, reorganized the shifts of the nursing staff so that the same number and calibre of staff would be on duty seven days a week and every employee would have every other week-end off. The new schedule involved reducing the total hours worked in a two-week period to 70 hours or seven 10-hour shifts. Overtime was paid for all hours worked after 10 in a day or 40 in a week; all full-time registered nurses were reclassified as professional exempt staff. All staff were paid for holidays, hourly rates of pay were increased and all in-service training schemes were reorganized to take place during employees' time off to avoid their being relieved from duty to attend training courses. A pilot study was carried out during a three-month period in one hospital unit. The benefits of the scheme were: (i) a 26 per cent reduction in staff turnover; (ii) an increase in staff morale; (iii) reduction in nursing care hours by 11.3 per cent; and (iv) the staff had every other week-end off, a reduction in their work week to 70 hours, and pay for holidays. A

survey revealed that nurses' satisfaction with the rescheduled working week was eight per cent higher than the mean score of all the staff who completed the survey and attitudes towards hospital administration had improved.

37. STRILAEFF, F. **Shiftwork and turnover of general duty nurses.** *Dimensions in Health Service*, Toronto, 1976, Aug., vol. 53, no. 8, pp. 36-38.

The cost of nursing staff turnover is high. There are strong indications that the nature of the organization of the wards on which nurses are employed may be crucial to turnover. A questionnaire completed by 333 general duty nurses employed on 30 closely matched medical wards in four comparable general hospitals in a large urban area in eastern Canada revealed that erratic shift work contributed to the nurses' disposition to leave. Statistical data and comments made by the nurses indicated that both married and single nurses find erratic hours of work tiring which, in turn, impinges on outside activities and home life. Mechanisms by which nurses overcome the restrictions of shift working include reporting sick and changing shifts with colleagues. Some suggestions are made for improving the situation.

38. TIBBITTS, G. E., NICHOLAS, J. R. and MCKAY, R. J. **Nurse training: how much of it is education?** *International Journal of Nursing Studies*, Oxford, 1976, vol. 13, no. 3, pp. 187-193.

Five teaching methods in a three-year hospital-based course were analysed hoping to determine which methods gave the best results. The methods used were: reading, traditional lecture, audio-lecture, programmed instruction and multi-media. Subjects were tested at four different stages during the study: (i) pretest; (ii) treatment stage; (iii) immediate recall; and (iv) short-term and long-term retention. At the immediate recall stage multi-media was found to be the most effective method with programmed instruction and reading each only slightly less so. Audio and lecture methods were only marginally better than the control (no treatment) group. No additional differences occurred in subjects' performances at the short-term or long-term retention stages. The implications of the findings for nurse educators are discussed.

39. REICHOW, R. W. and SCOTT, R. E. **Study compares graduates of two-, three-, and four-year programs.** *Hospitals*, Chicago, 1976, July 16, vol. 50, no. 14, pp. 95-97, 100.

A significant gap exists between what nursing educators want for their students and what employers want from their nurses in the United States. Academics have been accused of building bigger and better schemes and employers often encourage over-supply in order to increase the number of applicants from whom they may select, particularly when they are not contented with what is available. A questionnaire was sent by the Kansas Hospital Association to the administrators and directors of nursing service of the 166 hospitals and 34 skilled nursing homes in membership. Seventy-four per cent of the hospitals replied and the results indicated that baccalaureate schemes are successful in producing graduates for leadership roles especially where larger hospitals are concerned. Even the smaller hospitals considered the baccalaureate nurses as being higher in their knowledge of administrative procedures, although equal to diploma nurses in leadership ability and in ability to learn new ideas. The survey of the skilled nursing homes provided descriptive data only, as the number that had

experienced recent graduates was not adequate for statistical analysis. Plans to eliminate diploma schemes are questionable since indications are that differences in rank are a result of institutional preparation rather than individual student differences and the elimination of the scheme will serve to aggravate the gap between academics and employers.

40. POWERS, M. J. **The unification model in nursing.** *Nursing Outlook*, New York, 1976, Aug., vol. 24, no. 8, pp. 482-487.

Problems in unifying nursing education and practice still exist in the United States. The potential for change inherent in the unification approach is demonstrated by the success of the projects at the University of Florida and Case Western Reserve University. Both have made contributions to the development of their institutions but also to the development of nursing practice and nursing education as co-ordinated, social institutions. The University of Florida adopted the medical organization model as the pattern for unifying nursing practice and education; Case Western Reserve University developed a unification model which was later used at the University Hospitals of Cleveland. Recent attempts at unification at the University of Rochester are discussed. The feasibility of the role and the problems are considered. The unification approach pulls down the barriers separating practice from education; the fact that unification efforts in nursing have not been accepted more readily can be attributed to the fact that innovative ideas are often pushed aside for the more practical, safer plan. The university provides an organizational potential which when wisely planned provides a structure for the study, teaching and practice of nursing under a single roof, promoting the field and science of nursing.

41. RAVE-SCHWANK, M. Die Weiterbildung zur Fachkrankenschwester/zum Fachkrankenpfleger für Psychiatrie im Landschaftsverband Rheinland. **[Post-basic training for psychiatric nurses in the Rhineland District Association.]** *Deutsche Krankenpflegezeitschrift*, Stuttgart, 1976, Oct., vol. 29, no. 10, pp. 554-556.

The first course for psychiatric nurses run by the Rhineland District Association, which is responsible for post-basic training, had 27 participants selected from among nurses serving in large psychiatric hospitals. The course has three parts: theoretical training and practice, five periods of three weeks each, giving a total of 600 hours spread over two years; practical discussions, held between the theoretical sessions on the participants' own wards and lasting 14 days; and practical work periods in day hospitals during the two-year course. The tutors for the course are a psychiatrist, a psychologist and a nurse tutor with psychiatric experience. Details are given of the subjects covered by the theoretical course.

42. NELSON, E. G. and BLENKINSOP, D. **Managing the system: a theoretical and practical review of a case of managerial development in a hospital nursing service.** Newcastle-upon-Tyne, Northern Regional Health Authority, 1976, iv, 81pp. £1.00

A study of the implementation of the Salmon scheme of senior nursing staff structure in the Durham group of hospitals was published in 1972 [see *Hospital Abstracts*, Vol. 12, Abstract 1110]. This report outlines the experiences since then in searching for an appropriate managerial role for a nursing function. It has chapters on: management

concepts for hospital nursing; management controls; an appraisal of structure and management attitudes; towards a strategy for developing the management process; development through objectives; and continuous monitoring systems for management in nursing. Included as appendices are problem-oriented objectives expressed by senior nursing staff and charge nurses.

43. MILLER, G. A. **Patient knowledge and nurse role strain in three hospital settings.** *Medical Care*, Philadelphia, 1976, Aug., vol. 14, no. 8, pp. 662-673.

The relationship between patient medical and hospital knowledge and nurse role strain was examined within three contrasting types of general hospital in the United States: (i) a large private hospital; (ii) a small co-operative prepaid hospital; and (iii) a large county hospital. The hospitals were different in size, finances, community prestige, medical and nursing staff composition and had implications for the social class of the patients. The results indicated that the nature of this relationship varied between each of the hospitals; the county hospital had a very high work load for staff, and consequently there was little communication with patients. The prepaid hospital expected the patients to actively participate; there was no relationship between patient knowledge and nurse role strain in the private hospital. The data suggest that caution should be used when interpreting the study since the results are tentative and serve as suggestions for further possible research. Major weaknesses of the study were the small sample size, uneven ratings by nurses, and the difficulty involved in studying instances of tension and patient-induced role strain.

44. BLIEMEISTER, G. Psychiatrische Pflegeregeln—eine Anleitung für Krankenpflegeschüler. **[Psychiatric nursing roles—an introduction for trainee hospital nurses.]** *Deutsche Krankenpflegezeitschrift*, Stuttgart, 1976, Oct., vol. 29, no. 10, pp. 540-546.

This paper, by a psychiatric nurse, is a summary of the factors which she considers to be of importance for work in a psychiatric hospital. It is based on textbooks, discussions with colleagues and her own experience and is intended to be an introduction for the student nurse. The following points are covered: student nurses in closed wards; first confrontation with psychiatric patients; admission of patients; observation of patients; basic care and treatment of patients, including bathing, physical measures, and administration of drugs; conversations with patients; and student nurses in open wards.

45. HARKER, P., LEOPOLDT, H. and ROBINSON, J. R. **Attaching community psychiatric nurses to general practice.** *Journal of the Royal College of General Practitioners*, Edinburgh, 1976, Sept., vol. 26, no. 170, pp. 666-671.

Three community psychiatric nurses from Littlemore Hospital, Oxford, have been attached to group practices. Contact arrangements are through weekly practice review and referral meetings and by a 'hot line' to the community psychiatric nursing service at the hospital. This paper presents an analysis of the arrangement during the period December 1973 to December 1974. One community psychiatric nurse can work satisfactorily with eight general practitioners covering a population of about 18,000. From analysis of a working year, it is concluded that this arrangement improves the care of patients in the community by providing psychiatric help at times when it was

previously unavailable or unacceptable. The implications of such a scheme for the workings of the primary health care team and the hospital psychiatric service are considered, and a case is made for a further study involving a comparison between practices with and without the attachment of a community psychiatric nurse.

OTHER PROFESSIONAL AND TECHNICAL STAFF

See Abstract No. 15

ORGANIZATION AND ADMINISTRATION

See also Abstract Nos. 31, 42

46. WILD, D. **Hospital administration—the new order: the medical administrator's point of view.** *Royal Society of Health Journal*, London, 1976, Oct., vol. 96, no. 5, pp. 226-229.

The role of the medical administrator in the reorganized National Health Service (NHS) is considered. Hospital facilities consume the largest part of NHS resources and the introduction of delays and complications is distressing to the patient and frustrating to the clinician. The task of the administrator is to examine suggestions regarding the cause of the malaise in the NHS and to postulate hypotheses which can be tested. Suggested causes are examined under the headings: technology; staff recruitment; redeployment of staff; assistants to doctors; specialist services; political interference; cuts in administrative staff; and ban on private practice. The central problems of the NHS are discussed. The difficulties of exposing the need and planning within the new organization are intensified by changes in methods. Planning should take place in the light of local need rather than regionally so that services within and without the hospital can work together.

47. STOLTE, J. B. **Democratisation in the hospital: participation in decision-making in the Netherlands.** *Hospital and Health Services Review*, London, 1976, Oct., vol. 72, no. 10, pp. 348-353.

The present social climate in which the problem of democratization in Dutch general hospitals is posed has to take into consideration that most of the hospitals are privately run as corporations by boards of trustees. Only 20 per cent are public institutions run by municipalities, provinces or the State. The need for democratization stems from inequalities in the distribution of decisional power. Three options are open: (i) participation in the hospitals' decision-making by society; (ii) participation in the hospitals' decision-making by the patients; and (iii) participation in the decision-making by all members of the organization. Each aspect is considered in detail. The final result of the process will be a democracy, with the decisions taken by all involved either directly (direct democracy) or by people nominated for that purpose by all involved (indirect democracy). The problems of lack of correct consultation and conflicting interests are considered. Democratization has become more formalized in the last decade, but the balance between distribution of power and decisional proficiency, personal and collective responsibility, participation and manipulation will always be precarious. As long as the general social climate is one of confrontation it will be very difficult to live with any system of administration.

HOSPITAL ARCHIVES

See Abstract No. 68

ECONOMICS OF HOSPITAL MANAGEMENT

48. BROWN, M. and ENRIGHT, M., editors. **Shared services.** *Topics in Health Care Financing*, Germantown, Md., 1976, vol. 2, no. 4, pp. 1-127.

Although the concept of sharing services between two or more health care facilities is not new, in recent years the practice has spread in the United States until it can now be found in almost every discipline and operation in health care. This is a study of these developments, with case histories under the headings: sharing—an overview; hospital association sharing; multistate, multiservice corporate model; medical school based sharing; management of human resources in collaborative arrangements; laboratory sharing; contract management; some legal aspects; management of shared services; competition, co-operation and sharing; and sharing—an overall assessment.

RUNNING COSTS

See also Abstract Nos. 105, 134

49. DÖTTL, A. and RENNER, E. Verweildauer und Nutzungsgrad in ihren Auswirkungen auf Pflegesatz und Fallkosten. **[Effect of length of stay and bed occupancy on cost per patient day and cost per patient.]** *Krankenhaus Umschau*, Kulmbach, 1976, Oct., vol. 45, no. 10, pp. 729-732.

It is calculated that for a 500-bed hospital with a bed occupancy of 85 per cent the cost per patient day is DM150 and the cost per patient DM2,700 with an average length of stay of 17 days: with a 14-day length of stay these figures are DM168 and DM2,520 respectively. A three-day reduction in length of stay increases hospital costs by DM3.3 million a year while the cost per patient is reduced by DM180. For two 500-bed hospitals both with a 17-day length of stay but different bed occupancy rates the following figures were obtained: 85 per cent occupancy, cost per patient day DM150 and cost per patient DM2,700; 75 per cent occupancy, DM166 and DM2,980 respectively. While therefore a 12 per cent reduction in length of stay has hardly any effect on cost per patient day it increases cost per patient by 18 per cent. The conclusion is that cost per patient is a better yardstick than cost per patient day for measuring hospital efficiency.

BED OCCUPANCY, ECONOMIC USE OF BEDS

See also Abstract No. 49

50. MCSHERRY, C. K. **Quality assurance: the cost of utilization review and the educational value of medical audit in a university hospital.** *Surgery*, St. Louis, 1976, July, vol. 80, no. 1, pp. 122-129.

The components of utilization review and medical audit are analysed to determine their cost-effectiveness and educational value at a university hospital. The review costs

for the New York Hospital-Cornell Medical Center were $6.71 per admission or $0.69 per patient day in 1975. The average costs per admission and per patient day in teaching hospitals in the New York area in 1975 were $10.42 and $0.93 respectively. It is anticipated that these costs will rise markedly in 1976 through admission review. Since 1972 approximately 9,500 medical records have been reviewed annually, and an average of six patients per year were discovered who required the intervention of the utilization review committee due to an unnecessarily prolonged stay. The cost of identifying patients was $34,212. From September 1973 to December 1975, 15 studies of medical audit were completed at an average cost of $4,788 per audit. The chief criticism was lack of information on the medical record. The results of utilization review and medical audit indicate that both fail to produce benefits. Utilization review has failed to produce any results after 10 years' trial and is expensive; medical audit failed to identify the educational needs of the hospital staff. It is suggested that more satisfactory methods should be developed for both systems.

51. CLENDENNING, M. K. and others. **The effect of a target date based utilization review program on length of stay.** *Medical Care*, Philadelphia, 1976, Sept., vol. 14, no. 9, pp. 751-764.

A study was carried out to determine whether implementation of a specific formalized concurrent utilization review system which involved making a prior determination of length of stay had any more effect on average length of stay than continuance of a method not involving assignment of such a target date. In a study of the pre-discharge utilization review (PDUR) system in Pennsylvania, discharge abstracts were studied for Medicaid patients under 65 who were discharged with one of 14 common diagnoses from 16 Allegheny County hospitals in 1972 and 1973. Comparisons were made for each individual diagnosis to control for possible differences in case mix. The results of the study indicated that there was no general reduction in length of stay which could be attributed to the effectiveness of PDUR except for maternity patients. PDUR has some positive side benefits: increased cash flow and decreased misuse for Medicaid patients, although the cost of implementing and continuing the scheme is high. Since it has not been proved that PDUR reduces average length of stay any more than an active utilization review scheme there is no indication that the administrative costs of PDUR are balanced by savings in hospital costs.

52. SHONICK, W., HOPKINS, C. E. and GAUVREAU, E. **Factors associated with changes in occupancy rates of California short-term hospitals: an analysis of statewide hospital discharge data.** *Medical Care*, Philadelphia, 1976, Aug., vol. 14, no. 8, pp. 674-684.

The decline in the occupancy rate of California's short-stay hospitals between 1969 and 1972 was mainly due to an increase in bed supply that exceeded both the population growth and the change in utilization rate. The utilization rate declined in absolute magnitude and in rate per population due to decreased length of stay. Analysis of data indicated that the decrease was largely centred in Medicare and Medi-Cal pay classes, although admissions did not decrease. The declines lend support to the supposition that it was in response to government controls. The results of the study indicate that in California government supervision of payment for hospital care has operated to reduce length-of-stay, but this does not appear to have affected admission rates. The implications are: (i) a further depression of occupancy ratios if bed supply is held constant or

increases relative to population; (ii) further substantial reductions in hospital use under Medicare and Medcaid must be sought in admission rates rather than length-of-stay; and (iii) since the reductions in length-of-stay were virtually all government-financed stays it appears that the voluntary utilization review has not been as effective in reducing length of stay in California as has government-mandated review.

53. WERSINGER, R. and others. **Inpatient hospital utilization in three prepaid comprehensive health care plans compared with a regular Blue Cross plan.** *Medical Care*, Philadelphia, 1976, Sept., vol. 14, no. 9, pp. 721-732.

Substantial evidence exists that health maintenance organization (HMO) type prepayment plans can significantly reduce hospitalization rates in the United States. The factors that affect hospital use are: (i) patient determinants (incidence and prevalence of illness); (ii) hospital determinants (bed supply, availability of alternative bed facilities); and (iii) physician determinants (supply of doctors and method of payment). Three HMO-type plans have been offered since 1973 in the Rochester area: (i) Health Watch, a foundation for medical care; (ii) Genesee Valley Group Health Association, a multi-specialty pre-paid group practice; and (iii) the Rochester Health Network, a decentralized network of health centres. These services were compared with the traditional Blue Cross schemes, and their organizational features studied. Regular medical staff review, frequent use of second opinions and economies of scale achieved by providing care at the large health centre appear to have the greatest impact. However, such organizational advantages can be eliminated by adverse self-selection of patients during open-enrolment periods. Evidence of selection based on predictable high obstetrical and newborn care costs is presented.

APPOINTMENT SYSTEMS, WAITING LISTS

See Abstract No. 123

DATA PROCESSING

See also Abstract Nos. 60, 61, 106, 110, 111, 122, 145

54. TATHAM, L. **Recovery by computer.** *Health and Social Service Journal*, London, 1976, Oct. 8, vol. 86, no. 4511, p. 1811.

The Oxford Medical Computer Centre is pioneering a system to enhance hospital patient administration and provide data for planning and research. The system is seen as providing cheap computing power for the hospitals on which it is initially concentrated; it applies a concept of 'linked' computer processing and involves the updating of records in real-time, although based on minicomputers. The project using Coral 66, means that participating hospitals, rather than being linked solely through terminals to a large central system, will operate their own minicomputer systems, which will be linked to a further data base relating to brief records of the patient's case histories. Capital cost of the system is around £50,000 and annual running costs will be £12,000 for each machine. The first task was to encode an index to cover 630,000 sets of patients' case notes held by the former United Oxford Hospitals Group. The final

index occupies a box measuring seven by five by seven inches and is completely up-dated every month. A stand-alone patient movement system is now being developed at the Radcliffe Infirmary to up-date bed lists immediately. Patient data is kept in the files of the hospital's computer and is only accessible by the staff of the Patient Administration Centre, which maintains the confidentiality of the records.

55. LEITGEB, H. Ansätze zu einem Krankenhaus-Informationssystem in den Salzburger Spitälern. **[Statement on a hospital information system at Salzburg Hospital.]** *Österreichische Krankenhaus-Zeitung*, Wien, 1976, Sept., vol. 17, no. 9, pp. 431-434.

The comprehensive electronic data processing system which has been developed at the 1,480-bed Salzburg Central Hospital is described. It is linked with the Province of Salzburg Data Processing Centre which has an IBM 370/145-640 K computer. The system covers patient admission and patients' records, blood centre records, laboratory test records, radiotherapy and nuclear medicine, and printouts of doctors' letters and other documents. At the planning stage are an on-line system for retrieving important medical data and on-line links with all Salzburg hospitals.

56. GRABNER, H. von. and LEJHANEC, J. Das universelle Dokumentationssystem im Rahmen des Informationssystems WAMIS. **[The universal documentation system which is part of the WAMIS information system.]** *EDV in Medizin und Biologie*, Stuttgart, 1976, vol. 7, no. 2, pp. 53-56.

The electronic data processing installation, known as WAMIS, which forms part of the medical information system of the Vienna General Hospital, is an on-line system using an IBM 370/145 with 384 KB. There are 36 terminals (with viewing screens and matrix printers). WAMIS consists of the following more or less independent components: central patient-oriented data bank; system for supporting daily routine procedures on wards and in out-patient clinics; a universal data documentation system; the Vienna laboratory system; diagnosis system; information system; and evaluation system. The system is described and specimen printouts are reproduced.

SECRETARIAL SERVICES

See Abstract Nos. 27, 62

LIBRARIES

57. ARBETSGRUPPEN FÖR UNDERSÖKNING AV BIBLIOTEKSVERKSAMHETEN VID SJUKHUS. Sjukhusbibliotek: en översyn av de allmänna bibliotekens verksamhet, organisation och arbets former. **[The hospital library: a review of the operation and organization and type of work done by the general library.]** Lund, Bibliotekstjänst, 1976, 170pp.

This is the report of a working party on hospital libraries in Sweden, set up at the end of 1973, whose membership included representatives of the Cultural Council, the County Councils' Association, the District Councils' Association, hospital librarians, and the Swedish Public Libraries Association. It analyses replies to a questionnaire returned by 443 of the 539 hospitals in Sweden with 30 or more beds, and also gives a

detailed account (supplemented by extensive tables) of an intensive three-weeks' work study carried out in eight hospitals selected as representative of the various types of Swedish hospitals. The report is mainly concerned with the general library (this term is preferred to 'patients' library' since it can be used by staff as well) but the work study also covers the 'professional library' (or medical library) and the 'combined library' (general and professional in one unit). Of the 443 hospitals, 355 had general libraries, 161 had professional libraries and 36 had combined libraries. The report makes a number of recommendations including the following: the general library's basic book stock should range from 1,000 volumes for a hospital of up to 100 beds to 6,500 volumes for 1,000 beds with five additional volumes for each bed in excess of 1,000, and annual accessions of one volume per bed; provision should be made for talking rooms, reading aids, records and tapes as well as the loan of pictures (the latter primarily in long-stay hospitals); libraries should be open on at least two days for a weekly total of one hour per 30 beds (minimum five hours a week) and there should be a reading room open at all times; there should be one full-time staff member per 200 beds with a ratio of qualified librarians to other staff of 1:0.75. The general library should be co-ordinated with, and managed by, the district public library and there should be a written agreement between hospital authority and the public library; the tendency should be towards the setting up of 'combined libraries' integrated with the district public library system.

ORGANIZATION AND METHODS, WORK STUDY

See Abstract No. 32

MEDICAL RECORDS

See also Abstract Nos. 54, 56, 90, 111

58. BALDINI, A., GATTAI, A. and PERINI, A. Analisi comparativa di cartelle cliniche per una ipotesi di standardizzazione. **[Comparative analysis of medical records for a hypothesis on standardization.]** *Ospedale*, Torino, 1976, July/Aug., vol. 29, nos. 7/8, pp. 199-214.

The authors analysed 1,450 medical records from 421 Italian hospitals as to size, shape, colour, number of pages, layout, contents, etc., and found an amazing variety. They propose the general introduction of a standardized cardboard record file, 21.5 by 29 cm., into which pages of different colours which relate to different aspects of the patient's condition and treatment can be inserted. Other recommendations include: the hospital's full name should appear on the cover; a number should be allotted to each patient; the originals of the laboratory reports should be kept in the file; and the record should be signed by the head of the unit or the doctor in charge of the case.

59. SJUKVÅRDENS OCH SOCIALVÅRDENS PLANERINGS- OCH RATIONALISERINGSINSTITUT. Grundjournal. **[The basic record.]** (Spri råd 4.7) Stockholm, Spri, 1976, 106pp.

This advice note has been prepared as a result of the need for co-ordination and standardization of medical records throughout the health service. Its aim is to develop systems of basic medical records. This note deals with hospital in-patient and out-

patient care. Following an introduction it considers: the medical record as a system; general proposals; trials of the proposals; and future development work. Recommendations are included in a series of appendices which cover record handling, information structure, standardization of forms, and rules for dictation and correspondence. [This abstract has been prepared from an English summary of the report.]

60. LOVATT, K. and PARDOE, J. **The computer in the medical records department. 2. Computer assisted in-patient registration system.** *Medical Record*, Boston, Lincs., 1976, Aug., vol. 17, no. 3, pp. 167-170.

This paper outlines the system which has been in operation in the Mersey Region for five years using computer assistance as an aid to in-patient registration. It provides a neat and inexpensive compromise between purely manual and wholly computerized methods and is now in use at three hospitals—Sefton General (680 beds), Walton (687 beds) and Fazakerley (1,207 beds). The basis for the system is the five-part admission documentation set, which is typed in reception using an automatic typewriter. It consists of: (i) stylized HMR1 admission form for use in the case notes; (ii) nursing report for use on the ward; (iii) transfer/discharge record; (iv) Hospital Activity Analysis coding slip; and (v) admission index card for use in reception. When the five-part set has been completed, the papertape produced is fed back into the automatic typewriter to type the patient details onto a metal foil and into a continuous papertape for transmission to the computer centre. The metal foil is used in an addressing machine to produce a set of patient identification labels. Every evening a three-part ward set is printed at the hospital listing patients by ward. On discharge a four-part discharge letter is produced. Other outputs from the system are listed. Two diagrams of the system are included.

61. ROGER, F. H., JOOS, M. and HAXHE, J-J. À propos de la gestion des informations médicales: dossiers médicaux, microfilms, automatisation. **[On the management of medical information: medical records, microfilms, automation.]** *L'Hôpital Belge*; *Het Belgisch Ziekenhuis*, Bruxelles, 1976, May/June, vol. 19, no. 121, pp. 9-23.

The authors review the various types of medical record and also the use of centralized storage systems, microfilms, microfiches, and automation. At the University of Louvain they have devised a new automated interhospital medical record summary and an explicit integrated four-page medical record. The latter includes, in chronological order: clinical findings, laboratory reports, operations performed, treatment prescribed, and follow-up. The most significant data are summarized in a list of problems. It is claimed that this new record incorporates the traditional record with the newer problem-oriented and decision-oriented records. Specimens of the summary and record are reproduced.

62. MARLE, M. van. Het praktische nut van een dicteerkamer. **[The practical value of a dictation room.]** *Ziekenhuis*, Utrecht, 1976, Oct. 6, vol. 6, no. 19, pp. 521.

The purpose of a dictation room is to increase the efficiency of the medical record

department by reducing time spent by staff in retrieving files from various places throughout the hospital and by linking the work carried out on the records more directly to the department. The room should either adjoin the department or form part of it. Three or four U-shaped cubicles should be sufficient, the walls covered with sound-resistant material, the floor with wall to wall carpeting and the ceiling lowered if required. Furniture should include a chair and a table for each cubicle as well as dictation machine and telephone. Important is a sectioned cupboard to hold files available for medical staff. The room can also be used for sitting and working from the records on research, statistics, publications, etc. A plan is included.

63. BACH, M. Die Archivierung von Krankenblättern und Röntgenfilmen. **[Storage of medical records and X-ray films.]** *Krankenhaus Umschau*, Kulmbach, 1976, Oct., vol. 45, no. 10, pp. 732-734.

Microfilming of medical records and X-ray photographs saves space and labour, expedites retrieval and is safer. Medical records use 16 mm. film and X-ray photographs use 35 mm. but the jackets enable both to be kept together. Storage of microfilms for a 400-bed hospital, allowing for the statutory 30-year retention required in Western Germany, would occupy an area of 75 sq. m. In addition to storage cabinets, microfilm readers, projectors and machines for reproducing film in A4 format are needed. To avoid the large capital costs and specialist staff necessary it is recommended that microfilming should be done by contract.

HOSPITAL STATISTICS

64. MARTINI, C. J. M., HUGHES, A. O. and PATTON, V. A. **A study of the validity of the Hospital Activity Analysis information.** *British Journal of Preventive & Social Medicine*, London, 1976, Sept., vol. 30, no. 3, pp. 180-186.

For many years the medical profession and its administrators have been using statistical tabulations from the Hospital Activity Analysis (HAA) returns. The quality of this information has often been criticized and no attempt has been made to quantify the level of 'errors' in England and Wales. A study of the HAA data from Nottingham was carried out with the objective of checking its accuracy. An analysis was made of a random sample of all 1972 HAA records (a total of 73,940) for three hospital management committees (HMC) covering 29 hospitals serving a population of just under one million. The results showed that in 30 per cent of the sample of records examined there was lack of complete agreement between the HAA tape and the validated contents of the hospital notes. The differences between HMCs were small and not statistically significant. A 'refined' error rate was produced for each HMC. The HAA requires expansion in at least four different areas: hospital management, patient management, health services planning, and medical care and epidemiological research. The analysis of the HMCs shows that the differences are consistent suggesting a systematic error perhaps in the definition of how to collect information. In terms of accuracy the HAA system is almost as good as the clinical notes from which it is derived and has the advantages of uniformity and automation that other medical information systems do not possess. Recommendations are made for training to improve the standardization of recording at hospital level.

LEGAL ASPECTS OF HOSPITAL ADMINISTRATION

See Abstract No. 101

FINANCE AND ACCOUNTING

FINANCE

See also Abstract Nos. 53, 124

65. BENZ, A. E. Reform der Reform? **[Reform of reform?]** *Krankenhaus Umschau*, Kulmbach, 1976, Sept., vol. 45, no. 9, pp. 631-637.

This is a critical assessment of the effect of the 1972 West German 'Act for securing the economic welfare of hospitals and for regulating the charge per patient day', known as the KHG. The conclusions include the following: the aim of the Act is on the whole sound and it has achieved some success if only in the short-term; the proposed system for financing hospitals (a division between costs to be met by the State and those to be met by the consumer) is unsuitable and even impracticable; the grant to hospitals based on the inclusive cost per patient day should be replaced by one related to individual cases and services (broken down according to medical services, nursing, and accommodation and board) to cover total costs, including capital expenditure; and the uniform, federal regulation of hospital grants needs to be supplemented by a regional system to cover additional financing, planning and control, and the procurement of equipment.

66. POELS, A. T. J. Budgettering in de intramurale gezondheidszorg. **[Budgeting in institutional health care.]** *Ziekenhuis*, Utrecht, 1976, Oct. 6, vol. 6, no. 19, pp. 502-508.

After mentioning the need for budgeting and its historic development since 1925, the author points out the difference between budgeting for the health service in order to balance the books and for industry where the motive is maximum profit. He refers to various publications and the many general definitions given of the term. Various types are defined, such as investment, exploitation, quantitative costs, yield and liquidity budgeting. The aims should include planning, estimating and controlling of hospital activities and regular testing of exploitation costs. Distinction is also made between fixed budgets, which have maximum limits for certain activities during a certain period, and variable budgets based on varying costs. Aspects of both types are discussed, such as the advantage of knowing a financial limit in advance and the disadvantages of asking for higher allocations than necessary, spending the maximum even if not needed, uncertainty about the size of allocation, effect of budgeting on decision-making and on quantity and quality of health care. The author favours a variable budget with a decision procedure based on clearly defined norms. In this context problems of staff co-operation, position of hospital specialists, correct financial assessment and over-capacity of manpower are discussed.

67. MONTAGNE, M. J. and LECLERCQ, M. Plan directeur: méthodologie et application, cas du centre hospitalier de Roubaix. **[Master plan: methodology and application, as applied in the Roubaix Hospital Centre.]** *Techniques Hospitalières*, Paris, 1976, Aug./Sept., vol. 31, nos. 371/372, pp. 72-76.

The authors describe their method of prospective analysis of financing in relation to the proposed construction of a Fontenoy type hospital at Roubaix. They first analysed past investment patterns and methods of financing this investment. Forecasting is based on a study of five separate stages: the choice of the method of financing the investment (i.e. the proportion to be borrowed or received as a State subsidy); the estimation of the cost of the project, taking inflation into account; an analysis of how the debt will be paid off; the impact on the investment sector, i.e. receipts must cover repayment of the debt; and, finally, the impact of the project on operational costs, expressed as the price to the patient of a day's stay in hospital.

68. SJUKVÅRDENS OCH SOCIALVÅRDENS PLANERINGS- OCH RATIONALISERINGSINSTITUT. Fastighetsregister. **[Property records.]** (Spri råd 7/6) Stockholm, Spri, 1976, 38pp.

This advice note considers the need for and form of records of all health service property, whether owned or rented. Two main alternatives are considered: account-coded file, and property file. The scope of the files, their organization and their gradual compilation are considered. The forms used are included as an appendix. [This abstract has been prepared from an English Summary of the report.]

SUPPLIES AND STORES

SUPPLIES

69. GREENSLADE, D. **Almost right on centre for supply and demand solution.** *Health and Social Service Journal*, London, 1976, Oct. 8, vol. 86, no. 4511, pp. 1814-1815.

The new centralized supply service for Northamptonshire Area Health Authority is described. Before the new system was established storage and supplies accommodation in Northamptonshire was scattered, usually in poor condition and inadequate in total capacity. There were problems of effective supervision, lack of bulk purchasing, high transport costs and increased costs of staff and storage resources. The new system housed in two purpose-built factory units in Northampton, has streamlined resources, released valuable space for hospital users, reduced the number of orders placed and invoices processed, and led to commodity specialization within the staffing structure. Quality control facilities have improved and paperwork is being reduced through the standardization of stock control and issue systems. The initial disadvantages of the system which need resolving are: (i) a longer turn-round of requisitions from certain units; (ii) the lack of senior supplies representation at district level; and (iii) the problem of emergency or urgent deliveries to the user. Further categories of stock to be phased in are bedding and linen, uniforms, clothing, hardware and crockery.

CATERING, DIETETICS, KITCHENS

KITCHENS

70. VROEMEN, J. H. P. Ervaring in St. Joris Gasthuis te Delft: bak-kook autoclaaf brengt bereidingstijd van veel gerechten tot ruim helft terug. **[Experience in the St. Joris Hospital, Delft: autoclave cooking system reduces the time taken to prepare many dishes.]** *Voeding- en Huishoudgids*, Amsterdam, 1976, Sept. 20, vol. 43, no. 524, pp. 421, 423-425, 427, 429.

The kitchen at this hospital caters for 650 patients, the majority ambulant, plus hospital staff. It has seven full-time and two part-time cooks and eight staff for food preparation, washing-up and cleaning. With advance preparation for week-ends and some 270 special diets, kitchen activities are highly organized. The cooks have detailed work schedules, but within these scope for their own initiative. Menus are decided fortnightly by a hospital committee which includes a patient. Food transport to pavilions takes place in small vans loaded with unheated, double-walled trolleys containing food compartments or heat-retaining covered dishes, and to restaurant and other destinations in trolleys au bains-marie. The well-equipped kitchen has as its main feature a two-tunnelled autoclave, where cooking and roasting is carried out simultaneously under high pressure, reducing cooking times to less than half the conventional times without loss of flavour and with less shrinkage. A loading area at the end of the food portioning belt includes a hydraulic platform which lowers food collecting vans to the level of the transport trolleys. The central washing-up area is situated between kitchen and loading area with access to both. Examples of cooks' work schedules, a detailed floor plan of the kitchen with enumeration of equipment and 11 photographs are included.

FOOD SERVICE

71. GREVEN, D. Zur Rationalisierung des Abendessens bei vorhandenem Tablettsystem. **[Rationalization of evening meals using a planned tray service system.]** *Österreichische Krankenhaus-Zeitung*, Wien, 1976, Oct., vol. 17, no. 10, pp. 493-494, 497.

The cold evening meal can be portioned in the kitchens during a slack time (after breakfast for example), placed on trays which are arranged on trolleys and kept in a cool store at +2°C to +4°C until required: food will keep fresh under these conditions for at least 48 hours. Food is wrapped in a foil covering which can be colour-coded to indicate special diets. It is an advantage if trays, plates and cutlery are of a disposable type.

LAUNDRIES AND LINEN SERVICE

HOSPITAL LINEN TEXTILES

See Abstract No. 77

HOSPITAL DOMESTIC MANAGEMENT

72. EMERZIAN, A. D. J., COLEMAN, J. R. and LANDRY, R. A. **Management system for manpower allocation and control.** *Hospitals*, Chicago, 1976, July 16, vol. 50, no. 14, pp. 101-105.

The Housekeeping Manpower Allocation and Control Systems (HOMACS) developed by the University of Connecticut is suitable for use in any short-stay general hospital, nursing home, or skilled nursing facility that has organized housekeeping services. HOMACS subdivides housekeeping management into: (i) regular work scheduling system; (ii) project work scheduling system; and (iii) quality control system. The three systems are outlined. HOMACS is flexible and can accommodate any organization's housekeeping policies, practices and objectives. The three work management systems can be designed separately and operated independently of each other allowing potential users to select those parts of the total system that best meet their immediate needs without designing a complete system. The benefits of regular work scheduling are outlined. HOMACS generates seven planning reports concerning the distribution, allocation and scheduling of housekeeping manpower which provide management with: (i) expected number of hours and number of staff required on each shift; (ii) list of work assignments; (iii) list of all rooms and areas included in the work assignments; (iv) time required; (v) possible time savings; and (vi) data to identify the importance of work components for rating the quality of work. Other services supplied are: patient discharge services and the multilocation work system. The benefits and results of the scheme are: realistic service requirements; improved task definition; equitable work assignments; better work scheduling; reduced scheduling effort; cost containment; improved quality of work; improved productivity; better management; and improved budgeting.

HYGIENE IN THE HOSPITAL

HOSPITAL INFECTIONS

73. JOHNSON, J. D. and others. **A sequential study of various modes of skin and umbilical care and the incidence of staphylococcal colonization and infection in the neonate.** *Pediatrics*, Evanston, Ill., 1976, Sept., vol. 58, no. 3, pp. 354-361.

Rates of colonization and infection of newborn infants with coagulase-positive staphylococci were studied during five sequential periods using various modes of skin care in the nursery. Colonization and infection were low during the baseline period when total body bathing with three per cent hexachlorophane was used (period 1), but increased dramatically (80 per cent colonization, 9.5 per cent infection) when hexachlorophane was discontinued and replaced by Ivory Soap baths (period 2). Restitution of hexachlorophane (period 3) reduced both colonization and infection, but not to the low levels seen in period 1. A second Ivory Soap period (period 4) resulted in a return to high colonization (77 per cent) and infection (11.5 per cent) rates. During period 5, daily Ivory Soap baths were continued and bacitracin ointment was applied to the umbilical area at least three times daily. Colonization was reduced to 10 per cent and

infection to three per cent. Bacitracin could not be detected in serum in 15 infants studied. Colonization with Gram-negative bacilli was highest while using hexachlorophane or Ivory-bacitracin, but no increase in Gram-negative infection was seen. It is concluded that the local application of bacitracin is a safe and effective method of controlling staphylococcal colonization and disease in newborn infants.

74. ABER, R. C. and others. **Nosocomial transmission of group B streptococci.** *Pediatrics*, Evanston, Ill., 1976, Sept., vol. 58, no. 3, pp. 346-353.

A prospective study of group B streptococcal colonization in a 300-bed hospital disclosed rates of 29 per cent of 297 third trimester women, 37 per cent of 242 newborn infants and 45 per cent of 22 staff members. Colonized patients were more frequently black and anaemic on admission for delivery. Infant colonization was statistically associated with a positive maternal genital culture, low birth weight and prematurity. Hospital transmission of group B streptococci was strongly suggested by observations that 41 per cent of colonized infants were born to culture-negative women and such infants became colonized later in their hospital stay than did colonized infants born to colonized women. Furthermore, staff working in the labour-delivery and nursery areas had a significantly higher prevalence of the organism than did staff from other areas. Clearly, more information is needed about the epidemiology of group B streptococcal disease before appropriate and rational control measures can be recommended.

SOURCES OF INFECTION

75. COYLE-GILCHRIST, M. M., CREWE, P. and ROBERTS, G. *Flavobacterium meningosepticum* **in the hospital environment.** *Journal of Clinical Pathology*, London, 1976, Sept., vol. 29, no. 9, pp. 824-826.

Flavobacterium meningosepticum was isolated from 10 patients between July 1973 and July 1975; brief details are given of each case. *F. meningosepticum* was found in most of the thermometer storage solutions containing a one in 4,000 aqueous solution of chlorhexidine (Hibitane) on all 26 wards, and in all the aqueous chlorhexidine solutions of one in 1,000 and one in 5,000 used as ward disinfectants. Extensive testing of water supplies and stock solutions of chlorhexidine was carried out at the pharmacies but no Flavobacterium was found. None was present in the Hibiscrub or the 0.5 per cent chlorhexidine in spirit. Further investigations revealed that nail brushes and some instruments were stored in contaminated solutions of chlorhexidine. The presence of *F. meningosepticum* in the chlorhexidine solutions serves to highlight the dangerous practice of storing thermometers and instruments in disinfectants and topping stock solutions of disinfectants. Thermometers should be stored dry and disinfectants issued in disposable or autoclavable containers.

76. CHADWICK, P. **The epidemiological significance of** *Pseudomonas aeruginosa* **in hospital sinks.** *Canadian Journal of Public Health*, Ottawa, 1976, July/Aug., vol. 67, no. 4, pp. 323-328.

Laboratory and epidemiological investigations were carried out to show the extent of bacterial aerosol production from sinks colonized with *Pseudomonas aeruginosa* and to show the degree of relationship of isolates from sinks and patients in an intensive

care unit over a period of 24 weeks. It was shown that aerosol sprays could carry *Ps. aeruginosa* for distances of up to four feet. Two sinks in an intensive care unit contained *Ps. aeruginosa* throughout a 24-week period, and pyocin typing showed much heterogeneity. *Ps. aeruginosa* was isolated from 31 patients who were in the unit for varying lengths of time. The pyocin types of the *Ps. aeruginosa* correlated poorly with those of the sink isolates. Four incidents where *Ps. aeruginosa* spread from a patient to a sink, and two in which a sink organism probably infected a patient were defined. Nine patients were victims of cross-infection from other patients, probably by hand transmission by medical, nursing or physiotherapy staff. The conclusion is drawn that *Ps. aeruginosa* in hospital sinks may be occasionally responsible for the infection of patients, but this situation is less important epidemiologically than the risks of contact and infection between patients.

PREVENTION AND CONTROL

77. CLARK, R. P. and MULLAN, B. J. **Clothing for use in clean-air environments.** *Journal of Hygiene*, London, 1976, Oct., vol. 77, no. 2, pp. 267-269.

An investigation was carried out to evaluate the dispersal of micro-organisms from nursing staff who wore several garment assemblies including a polyethylene two-piece suit that can be laundered several times before disposal. Staff at the Regional Burns Unit, Mount Vernon Hospital, Northwood, Middlesex, have rigorous clothing requirements: light in weight; allow the wearer to remain cool at high work rates; must absorb sweat; must be aesthetically pleasing and fashionable; and quickly and easily changed. The plastic two-piece suit was compared with a cotton two-piece suit. The plastic suit gave the lowest dispersal at 40 per cent of the cotton suit value. The cotton suit with plastic apron and the cotton suit with cotton gown assemblies produced 54 per cent and 69 per cent respectively of the cotton suit value for micro-organism dispersal. The plastic suits allowed fewer micro-organisms to be dispersed into the environment than the other garments but were less comfortable and unacceptable for long periods of use in a stressful environment such as the burns ward intensive care areas.

78. MOSTAFA, A. B. M. G., CHACKETT, K. F. and DEVERILL, C. E. A. **Coated bedpans: their cleaning and disinfection.** *Journal of Hygiene*, London, 1976, Oct., vol. 77, no. 2, pp. 199-204.

Tests were carried out into the cleaning and disinfection of stainless steel bedpans coated with either a silicone grease or polytetrafluoroethylene (PTFE). Coatings were applied manually using an aerosol spray (silicone grease and PTFE) and by an industrial process for PTFE only. The soiling materials were British Standard soil, human serum albumin labelled with technetium—99m (HSA-Tc), and a suspension of *Streptococcus faecalis* in broth. Tests were carried out in automatic washing and steam disinfector machines. All the bedpans were adequately cleaned, as far as visual inspection of the BS soil could show. After one hour visible stains were seen on standard bedpans and on the PTFE-sprayed bedpans, although the silicone-sprayed and the industrially-coated bedpans showed no residue soil. The results indicated that manual coating of bedpans by aerosol sprays is not recommended, as overall cleaning is impaired rather than improved, and the bedpans have to be resprayed each time. The industrially processed

bedpans show no advantage over standard bedpans for disinfection but their use in medical and geriatric units may be recommended because of their superior cleanability.

HYGIENE IN THE OPERATING THEATRE

79. SCHONHOLTZ, G. J. **Maintenance of aseptic barriers in the conventional operating room: general principles.** *Journal of Bone and Joint Surgery*, Boston, 1976, June, vol. 58-A, no. 4, pp. 439-445.

Contamination of operative wounds during surgery occurs primarily through contact and secondarily through the airborne route. Many air-conditioning systems in operating rooms are out of date and others lack proper maintenance or adequate supervision. Inspection and maintenance of air-handling equipment is essential, with special reference to air intakes, filters, humidifiers and exhaust systems. Recommendations for the maintenance of the correct pressure of air in the operating theatre, together with the number of air changes, relative temperature and humidity, and clothing of medical staff are outlined. Surgical attire for all staff should provide for complete coverage of hair and arms. Intensive interim cleaning of all horizontal surfaces between operations is essential to prevent infection by contact, together with sterilization of instruments and other supplies and garments. The possibility of infection by a common vehicle is considered. The cleanliness of the operating theatre and the possible use of a quarantine period are discussed, together with the use of bacteriological sampling of the environment. The infection rate is proportional to the duration of the operation and the number of staff in the room, and inversely proportional to the air changes per hour.

80. MCLAUCHLAN, J. and others. **The role of clean air in wound infection acquired during operation.** *Surgery, Gynecology and Obstetrics*, Chicago, 1976, July, vol. 143, no. 1, pp. 6-8.

A wound isolator was used to perform 109 total arthroplasties of the hip while 108 similar operations were carried out in a plenum ventilated operating theatre. Bacteriological samples were taken for each patient before, during and after operation. No prophylactic antibiotics were used. The results indicated that the air in the isolator is not only ultra clean but also sterile. In about half the patients operated on staphylococci of the epidermis group were found in increasing numbers in the wound as the operation proceeded. No potentially pathogenic bacteria were isolated from the fomites or the hands of the operator inside the double gloves. It appears that the skin of the patient is the source. The incidence of major infection was the same in the isolator group and non-isolator group of patients. Two major wound infections occurred in each of the two groups and five minor wound infections occurred in the isolator and three in the non-isolator group of patients. There is no evidence that sterile air has modified the occurrence of post-operative wound infection; the need for ultra clean air in operating theatres is deemed to be less urgent than the need to prevent secondary infection after operation.

AIR HYGIENE

See Abstract No. 18

SAFETY MEASURES

81. 'Telecontrol' beveiligings- en bewakingssysteem. **[The 'Telecontrol' protective alarm system.]** *Technische Gids voor Ziekenhuis en Instelling*, Amsterdam, 1976, Oct. 12, vol. 45, no. 1112, pp. 592-593.

The alarm system, developed by Culemborgse Nachtveiligheidsdienst, is designed to protect people working alone. An employee coming on duty sets the telecontrol at a time limit, say 50 minutes. After 40 minutes a red light flashes for the employee to reset the telecontrol. If he fails to do so, a buzzer will sound after five minutes. If he still does not respond for the next five minutes, an alarm signal will be automatically sent to a permanently manned reception centre. The system can be extended by addition of alarm buttons for the employee to press in cases of fire, burglary or accidents. It can also be adapted for handicapped and elderly people living alone. The paper includes two photographs and a diagram.

ACCIDENTS, GENERALLY

See also Abstract No. 112

82. GERMAINE, A. and RINNEARD, B. **How effectively do YOU use your incident/accident report?** *Hospital Administration in Canada*, Don Mills, Ont., 1976, Aug., vol. 18, no. 8, pp. 24-26.

The value of an incident and/or accident report is immeasurable, but the effectiveness with which hospitals use them varies considerably. This paper stresses the importance of the report to the nursing department. Analysis of the information in the reports can be used to alert staff to existing policies and to make additions to or deletions from those policies. Samples of an incident/accident report and a medication error report are reproduced and the circumstances in which they are used are listed.

ACCIDENTS IN GAS AND DRUG ADMINISTRATION

See Abstract No. 112

FIRES AND FIRE PREVENTION

83. PIEPER, H. Automatische Brandmeldeanlagen in Krankenhäusern. **[Automatic fire alarm equipment in hospital.]** *Krankenhaus Umschau*, Kulmbach, 1976, Sept., vol. 45, no. 9, pp. 653-654, 659.

The importance of the earliest possible warning of a fire outbreak in a hospital is stressed and two types of automatic alarm are described and illustrated: the ionization smoke alarm, which contains a very weak radioactive substance which is affected by the penetration of smoke and activates the alarm; and the thermo-differential alarm, which is activated when temperature increases by more than 10°C in a minute or when 70°C is exceeded. Air-conditioning plant must be continually monitored for smoke as it can

spread smoke to other parts of the building. Press button alarms are also useful. Alarm systems are linked to a central fire alarm point which must have a direct link with the public fire service.

84. PRZYBILLA, L. Brandschutzordnung für das Krankenhaus. **[Hospital fire prevention regulations.]** *Krankenhaus Umschau*, Kulmbach, 1976, Sept., vol. 45, no. 9, pp. 646-648, 651-652.

Effective fire protection in hospitals requires that all fire prevention regulations are fully observed and that, if a fire occurs, rescue and firefighting measures are expedited and supported. This paper gives the text of the fire protection regulations in force at the 392-bed Marien Hospital, Essen. These regulations are made known to each staff member on appointment who signs a form to say that he has read them. They cover fire prevention duties, location and use of equipment, and behaviour during an outbreak (including giving the alarm, fire-fighting, care of patients, and rescue work). An appendix lists the West German acts, regulations, orders, guidelines, and standards concerned with fire protection.

PLANNING FOR MASS EMERGENCIES

See Abstract No. 112

THE PATIENT

ADMISSION AND RECEPTION

See Abstract No. 120

WELFARE OF THE PATIENT

See also Abstract Nos. 43, 96, 128, 129, 135, 147

85. BERGMANN, T. Wie schlafen unsere Patienten? **[How do our patients sleep.]** *Österreichische Krankenhaus-Zeitung*, Wien, 1976, Oct., vol. 17, no. 10, pp. 489-490, 493.

Sound sleep at night makes a very important contribution to the patient's recovery. Patients should be properly settled down, there should be an 'harmonious human environment', suitable beds, and quietness. Sleeping pills should be given only as a last resort and when other measures have failed: pills should not be given too late so that the patient is still drowsy in the morning. Patients admitted during the evening, after the last meal has been served, will often need a drink and a snack to relieve hunger and thirst so that they can sleep.

86. PERRIN, J. **Guide to preparing a patient information booklet.** *Dimensions in Health Service*, Toronto, 1976, Aug., vol. 53, no. 8, pp. 22, 25-26.

Patient information is part of the hospital public relations and helps to form the hospital image. The patient information booklet should provide crisp and concise

information, be easy to read and give enough information. Advice is given on items to be included in the booklet under the following headings: welcome note; admission information; admission procedure; hospital surroundings; activities during the patient's stay; preparation for an operation; hospital visitors; special services available; invitation to donate to the hospital; going home; questionnaire; visitors' card; and brief history and other details of the hospital and community services.

HOSPITAL SOCIAL WORK

See Abstract No. 115

THE GENERAL PRACTITIONER AND HIS PATIENTS

See also Abstract No. 125

87. WOODWARD, J. W. **A general-practitioner ward in a new district general hospital.** *Journal of the Royal College of General Practitioners*, Edinburgh, 1976, Sept., vol. 26, no. 170, pp. 660-664.

This paper describes the first year's work of the general practitioner ward at Queen Mary's Hospital, Sidcup, one of the few such wards in district general hospitals. The ward is managed by two committees: the ward staff committee to which every doctor using the ward belongs, and a small executive committee of seven members which meets more often and reports back to the larger group at the latter's six-monthly meetings. Sixty doctors are allowed to use the ward, but only 28 of these did so in the first year; eight of these were responsible for 72 per cent of the admissions. During the first year, 237 patients had 272 admissions. Bed occupancy varied from 48 per cent in the first month to a peak of 84 per cent. The average age of the patients was 75.1 years. Length of stay was correlated to age, the average being 29.3 days. Social admissions (62) formed the largest group of patients, followed by chest infections (36), ischaemic heart disease (29), malignant disease (18) and cerebrovascular accident (15). The advantages of the ward for patients and doctors are discussed.

TRANSPORT OF PATIENTS

See Abstract No. 121

HOSPITAL CARE

See also Abstract Nos. 34, 50, 95, 131, 133, 137, 152

88. CHAPMAN, C. **Nursing—a cost-benefit analysis.** *Royal Society of Health Journal*, London, 1976, Oct., vol. 96, no. 5, pp. 208-211.

Following the technique of cost-benefit analysis, the implication is considered that if more money were spent on the nursing service and education all wrongs in the National Health Service would be set right and patient care would be improved. However, little or no attempt has been made to separate the nursing from the medical input and the value of nursing care from the outcome of any specific patient care situation. Most of the information on the value of nursing intervention is anecdotal, based on professional

experience with little factual evidence on which to base decisions. Research into nursing activity is still in its infancy. Current research in nursing is analysed; where research findings have been published they are not widely known to the profession. Nursing research is not regarded in the same way as that of university researchers; it is not related to a coherent whole and is not acted upon. The cure and care factors should be isolated to reveal the contribution of nursing and the results measured. The basic care given to patients by auxiliaries and the concept of nurse training need re-evaluation. Research is needed to establish when the intervention of a trained nurse makes a difference to the outcome of patient care. Decisions relating to patterns of care must be based on knowledge of results and not on guesswork, and unrealistic policies should be dropped. The need for cost-benefit analysis is essential if standards are to be raised in the health service.

89. RULE, J. B. **Raising standards of care—what can we afford? What needs? Who cares?** *Royal Society of Health Journal*, London, 1976, Oct., vol. 96, no. 5, pp. 204-208.

Needs in the health services must be analysed and anticipated and planned for if they are to be met adequately. There is disquiet at the present standards of service in the care of the aged, the chronic sick and the mentally ill or handicapped, and the needs of these groups must be met by money and manpower. These resources are analysed in the light of current developments in the National Health Service. Implications are that the qualified staff must be spread more thinly on the ground and the unqualified must accept greater responsibility. Further investigation into current work loads and patient dependency on nursing care is required to estimate the number of nurses required to carry out patient care at an optimum level. The quality of service provided is considered together with the contribution of nurses to future needs and the preparation of nurses for this role. The need for nursing to become a research-based profession is considered and the aspects of professional care essential to nursing outlined. More money will have to be spent if there is to be: (i) a reform of nurse training to produce a broadly educated nurse; (ii) a well developed programme of specialized clinical training; and (iii) a systematic investigation into nursing practice. Further investigations are required into the role in terms of enhancing the quality of nursing care.

90. WALTER, J. B., PARDEE, G. P. and MOLBO, M., editors. **Dynamics of problem-oriented approaches: patient care and documentation.** Philadelphia, Lippincott, 1976, x, 206pp. £8.00

The aim of this book is to show that a logical, rational basis for nursing practice can be developed and demonstrated. It challenges the nurse to explore the development and expansion of the problem-oriented concept from merely a format of documentation to a holistic practice of nursing through a problem-oriented approach. It is arranged in three parts: concepts and theories; implementation; and expansion.

91. SHAPTER, E. **Point Pleasant Lodge: Halifax's answer to problems in medical accommodation.** *Canadian Medical Association Journal*, Ottawa, 1976, Sept. 18, vol. 115, no. 6, pp. 577-578.

Point Pleasant Lodge, Halifax, N.S., provides the service of a hotel to anybody who has to come to Halifax because of a medical problem but does not require in-patient care, at a third of the cost of a hotel. The Lodge opened in 1975 and it is conveniently

sited near the hospitals. The main problem contributing to the current financial predicament and the shoestring budget is underuse through lack of publicity. Only a 45 per cent occupancy rate has been noted. All 104 rooms are modern, some are specially equipped for paraplegics and have handrails and low lavatories. Three full meals a day are provided. There is a television room and a lobby, although the library and the games room remain unequipped due to lack of funds. Benefits of the system are: (i) much helping and sharing between guests resulting in spontaneous group therapy; and (ii) possibility of patients staying at Point Pleasant Lodge and having their pre-surgery tests performed as out-patients. The Lodge is filling a need in Nova Scotia, but without financial support a concept that could be of benefit to other large medical centres in Canada might not prove viable.

92. SCHULTZE, R. Die gestufte Pflege im Krankenhaus—ein Beitrag zum Thema der Kostensenkung im Krankenhauswesen. **[Graded nursing care in the hospital—a contribution to cost reduction in the hospital service.]** *Krankenhaus*, Stuttgart, 1976, Sept., vol. 68, no. 9, supplement pp. 1-4.

In this paper a surgeon discusses the advantages and disadvantages of progressive patient care with special reference to minimal care in the form of hostel-like wards. While progressive care has its advantages there are a number of disadvantages, including the following: lack of adequate medical supervision; changes of ward can be disquieting for both patients and nurses; selection of patients for different types of care is not easy; there are structural and organization problems; and saving on nursing costs may well be counterbalanced by increasing administrative costs. The conclusion is that the 'hostel concept' is advantageous only when studies over a long period in the hospital concerned have shown that the numbers in each nursing category do not vary significantly. The hostel system is lacking in flexibility and becomes less useful as average length of stay decreases.

93. WELGE, C. Die gestufte Pflege im Krankenhaus—ein Beitrag zum Thema der Kosten im Krankenhauswesen. **[Graded nursing care in the hospital—a contribution to cost reduction in the hospital service.]** *Krankenhaus*, Stuttgart, 1976, Sept., vol. 68, no. 9, supplement pp. 4-8.

The chief nursing officer of a 600-bed hospital in Western Germany challenges the idea that progressive patient care has advantages for patients and nurses and reduces costs. She claims that administrative costs and the costs of common services are in fact increased by the necessary transfers from ward to ward; that it is a disadvantage for both seriously ill and convalescent patients that they do not share the same ward; that the frequent changes in medical and nursing staff are bad for patients; and that, since their patients are taken from them when they are on the road to recovery, nurses are denied the satisfaction of seeing their task completed. Measures which the author considers would be helpful in reducing length of stay, and thus hospital costs, include minimal care admission wards for patients undergoing diagnostic tests, and the increased use of health centres and home care services.

94. GREMNER, K. Kvalitet och sjukvård: Reflektioner kring de japanska kvalitetscirklarna. **[Quality and medical care: reflections on the Japanese quality control system.]** *Sjukhuset*, Göteborg, 1976, vol. 53, nos. 7/8, pp. 396-398.

Japanese industry has for many years practised the concept of statistical quality

control groups, and the idea was taken up in Sweden at the beginning of the 1970s. Volunteers take part in a 20- to 30-hour course on 'self-diagnosis' in association with the European Organization for Quality Control. The concept has been extended to the health service under the title of medical audit, with responsibility for disposables, apparatus, etc. To be able to check one's performance one must know: (i) what is expected of one; (ii) whether one is doing what is expected of one; and (iii) how to amend whatever one is doing other than that which is expected. The three types of faulty performance are: (i) deliberate mistakes; (ii) conscious but uncorrectable faults; and (iii) accidental mistakes. The health service risks expanding in quantity (e.g. long-stay care) without a corresponding improvement in quality. The appointment of 10 or 12 rationalization experts per 1,000 staff (a modest proportion compared with progressive industrial undertakings) could lead to a notable improvement in quality at no increase in cost to the public purse. The Japanese 'quality circles' represent an attractive pattern, which SPRI ought to take up. The paper is illustrated with two examples of quality control forms used in Swedish industry.

95. RHEE, S.-O. **Factors determining the quality of physician performance in patient care.** *Medical Care*, Philadelphia, 1976, Sept., vol. 14, no. 9, pp. 733-750.

A study was made of the separate and joint effects of: (i) physician specialty; (ii) type of medical school attended; (iii) time in practice; (iv) type of ambulatory care setting; and (v) type of hospital, on the quality of physician performance in patient care. A sample of 454 doctors in 18 specialties was taken and multiple classification analysis used to determine the effects of the measurement predictors on the quality of physician performance. The results indicated that the organization of hospital care had a large independent effect, but the other four predictors had relatively small effects on the quality of performance. The setting in which care is provided has more influence than the education and training acquired by the doctors. All five predictors together accounted for 20 per cent of the variance. The problems encountered in the methodology are discussed, together with the implications for future research and administrators. In order to achieve high quality performance the profession may need to emphasize not only high quality training but also effective organization of the settings within which care is provided.

HOME CARE, AFTER-CARE

See Abstract No. 45

SPECIAL DEPARTMENTS

OPERATING SUITES

See Abstract No. 97

PHARMACY

96. PAULSON, P. T. and others. **Medication data sheets—an aid to patient education.** *Drug Intelligence & Clinical Pharmacy*, Hamilton, Ill., 1976, Aug., vol. 10, no. 8, pp. 448-453.

Medication data sheets were prepared for 59 different medications. Each sheet

contained the following information when applicable: (i) name of drug and strength; (ii) purpose; (iii) directions for use; (iv) instructions for correction of missed doses; (v) food, drinks or drugs to be avoided while taking the drug; (vi) possible side-effects and corrective actions; and (vii) a statement as to whether the prescription was refillable. In a study to evaluate the sheets 741 out-patients were given verbal instructions with their prescriptions and 759 were given verbal instructions and the relevant medication data sheet. The day after the prescription was filled, all the patients completed a questionnaire to determine how much of the information was retained. Significant improvement was noted in patient knowledge of self-administration with the use of written reinforcement of the pharmacist's verbal explanations with respect to items (ii), (iv), (v) and (vii). In addition it was shown that informing patients in writing of the potential side effects of the medication did not increase the incidence of their occurrence.

97. RASE, B. E. **Planning and operation of a surgical suite pharmacy.** *Hospitals*, Chicago, 1976, July 16, vol. 50, no. 14, pp. 107-110.

An integral component of the new addition to St. Joseph's Hospital, Tucson, Ariz., is a pharmacy which serves a seven-suite surgical complex. The system used before the opening of the new pharmacy is outlined, together with the problems. The new pharmacy is sited opposite the operating suite, and beside the recovery room. Responsibility for staffing the pharmacy lies with the pharmacy department and the section is staffed by a well-qualified pharmacy technician assisted by a nurse or a pharmacist when necessary. The design of the pharmacy is outlined, together with the organization of the section. The advantages of the system are: (i) improved service provided to the surgery department; (ii) a level of control exists over medications where previously there had been very little; (iii) a high level of trust, co-operation and rapport has been developed between departments; (iv) the loss of $1,100 per month under the previous system has been eliminated and there is now a saving of $300 per month after all expenses have been paid; and (v) better training and use of staff time brings benefits to the patients.

98. SIMBORG, D. W. **Medication prescribing on a university medical service—the incidence of drug combinations with potential adverse interactions.** *Johns Hopkins Medical Journal*, Baltimore, Md., 1976, July, vol. 139, no. 1, pp. 23-26.

An automated unit dose drug distribution system has been in operation at the Johns Hopkins Hospital since 1970 [see *Hospital Abstracts*, Vol. 15, Abstract 1777]. Since April 1974, an archive computer file has been kept of all medication orders. To determine the feasibility of, or necessity for, monitoring physicians' prescriptions for the purpose of providing early feedback regarding potential adverse interactions, this archive file of medication orders was analysed. In a two-year period, 103,484 medication orders were analysed for 6,864 patient admissions. Forty drugs accounted for 64 per cent of all medication orders and 100 for 84 per cent. The incidence of prescriptions for specific drug combinations with potential adverse interactions varied from three to 117 instances among the combinations examined. The results suggest that when physicians prescribe drug combinations with potentially adverse interactions they may not always institute appropriate surveillance to prevent adverse consequences. A trial of automated monitoring of medication orders with appropriate physician feedback has begun as a result of these findings.

99. BERGMAN, U., JACOBSEN, K. and WIHOLM, B.-E. Läkemedelshanteringen i sluten vård—erfarenheter från en jämförelse mellan två system för registrering av läkemedel. **[Drug handling in the hospital ward—results of a comparison of two systems of drug recording.]** *Tidskrift för Sveriges sjukskōterskor*, Stockholm, 1976, Sept., vol. 43, no. 17, pp. 46-51.

The VISO drug recording system used at Huddinge Hospital was inadequate. A one-day study in 1974 revealed that only 58 per cent of the medicines issued had been recorded correctly; in 25 per cent of cases, no instructions had been given for how long treatment was to continue. On the basis of Scottish experience [see *Hospital Abstracts*, Vol. 5, Abstract 1356] a new recording system was evolved and compared with the original system by time and motion study on one ward for two periods of one week. The trial system involved the registration of all drugs on the original prescription, eliminating the copying stage inherent in the existing system. The number of minutes per day spent by a nurse in issuing medicines at fixed times rose from 55 in 1974 to 84 in 1975, medicines being administered to 12.9 patients in 14 minutes in 1974 and to 12.6 patients in 27 minutes in 1975. A certain percentage of patients always requires information on their medication or help in taking it. Eleven nurses asked about the VISO system were satisfied with the system itself but less so with doctors' prescribing discipline; medicines were left on the patient's bedside table if he was not there when the nurse came round. Seven nurses were asked about the revised system, and found it preferable from the viewpoints of drug safety, responsibility and the patient. The paper is illustrated with a series of tables and graphs comparing the effectiveness of the two systems.

100. FARNER, J. and HICKS, C. I. **The impact of drug distribution systems on nurses' time involvement in medication related activities in long term care facilities.** *Drug Intelligence & Clinical Pharmacy*, Hamilton, Ill., 1976, Aug., vol. 10, no. 8, pp. 458-462.

Two unit dose distribution systems (one with a 24-hour supply and the other with a 72-hour supply) were compared with a traditional drug distribution system in a study in three nursing homes with similar groups of patients. The three systems required 1.91, 1.07 and 3.22 minutes respectively per dose. The study found significant differences between the traditional and unit dose systems. The latter significantly reduced nursing time involvement in controlled substance activities, medication preparation, medication administration, charting fulfilment, and total involvement in the medication cycle. The unit dose systems might also reduce nursing time involvement in inventory and controlled activities. Before implementing any unit dose drug distribution system, the pharmacist, administrator and nursing director should examine the impact of the system upon the medication cycle to maximize the benefits of the system.

101. FINK, J. L. **Some legal issues presented in clinical pharmacy practice.** *Drug Intelligence & Clinical Pharmacy*, Hamilton, Ill., 1976, Aug., vol. 10, no. 8, pp. 444-447.

As the pharmacist undertakes new responsibilities he will be confronted with a number of legal questions concerning actual or proposed activities. Indeed, attempts may be made to raise legal barriers to changes. The issues discussed here include: use of an FDA-approved drug for an unapproved use; informed consent in administration

of unapproved drugs; the role of the pharmacist in managing hypertensive patients visiting a hospital-based clinic; the legality of a pharmacist administering injectible drugs; the legality of permitting pharmacy students to draw blood; and the application of the Food, Drug and Cosmetic Act to the preparation of aluminium hydroxide cookies for dialysis patients. The legal standard of care expected of pharmacists performing clinical functions is discussed. While no cases have been decided yet concerning newer clinical activities, some precedent can be found in past cases.

102. STEWART, D. Y., KELLY, J. and DINEL, B. A. **Unit-dose medication: a nursing perspective.** *American Journal of Nursing*, New York, 1976, Aug., vol. 76, no. 8, pp. 1308-1310.

The new University Hospital, London, Ont., established a centralized unit dose drug system on all nursing units in 1972 [see *Hospital Abstracts*, Vol. 14, Abstract 569]. The system is based on the philosophy that the pharmacist is responsible for total drug use control; the pharmacy operates for 16 hours a day, seven days a week, with a pharmacist on call for the night shift. The system allows the nurse to focus her attention on the administration of the drugs and assess patient's responses to drug therapy. Medication profiles, which prevent the usual time lapse between administration and charting, are used by the nurses as a complete record of the scheduling and administration of drugs and are kept in a Kardex system. One nurse is assigned responsibility for 10 to 15 patients and there is one Kardex per team. A nurse and pharmacist screen all drugs to reduce the incidence of drug administration errors and share the monitoring of automatic stop-order policies. The system can be easily adapted to any size hospital. The nurses have a favourable impression of the impact of a unit dose system on their work. The advantages are significant for patient safety and efficiency. Less time is spent by the nurse in preparing and administering drugs, and charting is completed at the time of actual administration.

103. RÖHM, W. Rationelles und gefahrloses Abfüllen verschiedener Flüssigkeiten in der Apotheke. **[Rationalized and safe pouring of different liquids in the pharmacy.]** *Krankenhaus Umschau*, Kulmbach, 1976, Sept., vol. 45, no. 9, pp. 659-661.

A system for storing and bottling different types of fluids in a hospital pharmacy is described and illustrated. Fluids are stored in special rooms in chrome-nickel steel containers and transported by means of compressed air via a piping system to the filling room. Here small quantities can be drawn off as required without risk. Such a system is installed at the Ludwigsburg Hospital.

LABORATORIES

See also Abstract Nos. 11, 12

104. Stichting Samenwerking Delftse Ziekenhuizen tien jaar: technische mogelijkheden belangrijk vergroot door centralisering van laboratoria. **[The Delft Hospital Co-operative Association after 10 years: a noticeable increase in technical possibilities through laboratory centralization.]** *Technische Gids voor Ziekenhuis en Instelling*, Amsterdam, 1976, Sept. 28, vol. 45, no. 1111, pp. 542-545.

The Association's central laboratory is used jointly by three nearby hospitals. It

includes a dispensary, laboratories for clinical chemistry, bacteriology and serology, pathology and anatomy, and isotopes, plus a computer room and telephone exchange. Each hospital has a sub-laboratory from which samples, etc., are sent daily by van to the central laboratory. For urgent requests there is a 24-hour underground pneumatic tube system with coloured light signals and transport by cartridges taking an average of one minute per journey. In the laboratory for bacteriology and serology a photocopier is used for copying administrative, technical and medical data, to be filed and stored. Serological tests are carried out with a fully automatic Bioreactor and a specially designed installation provides culture plates. The laboratory for clinical chemistry is equipped with automatic machinery for chemical and clinical tests, but more mechanization as well as improvements in the computer system are still desired. The laboratory for pathology and anatomy uses a microtome; pathologists can slice tissue sections and simultaneously record their findings on tape. In the dispensary, tablets can be individually wrapped and labelled. More technical details and nine photographs are included.

105. PARIS, M. **Cost and quality control of laboratory services: the New York City Medicaid centralized laboratory proposal.** *Medical Care*, Philadelphia, 1976, Sept., vol. 14, no. 9, pp. 777-793.

New York City Department of Health attempted to introduce a scheme to fundamentally restructure the provision of clinical laboratory services to the city's Medicaid population. To reduce costs laboratory testing in each of the city's five boroughs would be centralized. The scheme, based on competitive bidding, gave one laboratory exclusive rights to process Medicaid laboratory samples and replaced existing fee-for-service payment methods with a system combining unit pricing and capitation. The principal provisions of the proposed laboratory contract are outlined. The motives of the City Department were to replace the existing laboratory system with a higher quality, more cost effective delivery system. The reactions of the existing service are described. The generic problems of implementing effective administrative techniques for cost and quality control of laboratory services are discussed. The intervention of the Department of Health, Education and Welfare to prevent the centralization of laboratories in New York City and the resultant legal outcome are outlined. The scheme indicates that more efficient services can be provided, but in order to achieve a coherent delivery system there must be reappraisal at all levels of government authority and all third-party insurers as well.

106. PASTOR, J. Traitement par ordinateur, en temps différé, des résultats de laboratoire: une expérience de trois ans. **[Use of an off-line computer for laboratory results: a three years' experience.]** *Techniques Hospitalières*, Paris, 1976, Aug./Sept., vol. 31, nos. 371/372, pp. 43-47.

At Saint Marguerite Hospital, Marseilles, requests for laboratory tests are made on precoded forms completed by the ward nurse. The results of manual analyses are recorded on punch cards and transmitted to the regional centre for hospital data processing together with the results of automatic analyses. The computer prepares a 'request' and a 'result' file. It prints out the results in triplicate and edits the laboratory notebooks. An asterisk indicates that a particular result is more than 2.0 above or below normal limits. The computer also prepares documents relating to quality control,

information for invoicing the patient for the analyses performed, and monthly statistics for administrative purposes. The request form and four examples of printouts are reproduced.

107. MIDTVEDT, T. Laboratorium for medisinsk mikrobiologi. **[A laboratory for medical microbiology.]** *Sykehuset*, Oslo, 1976, vol. 39, no. 5, pp. 261-264.

A hospital requires a far-reaching microbiology service, and above a certain size (450 to 500 beds) must have its own laboratory. The demands on the system are two speed and accuracy of diagnosis. In 1966 the branch medical microbiology laboratory at the 400-bed Akershus Central Hospital had a staff of two and performed 1,800 tests a year. Within three years it was performing 10,000 tests, and it now employs a staff of five for performing over 25,000 tests a year. In association with an extension of the hospital (to be opened in 1978/79), the laboratory is being provided with new accommodation for: (i) a laboratory section; (ii) a technicians' section, and (iii) offices. The number of tests is shortly expected to exceed 100,000 a year.

108. LERCHE, C. Laboratorium for medisinsk mikrobiologi. **[A laboratory for medical microbiology.]** *Sykehuset*, Oslo, 1976, vol. 39, no. 5, pp. 243-261.

Most clinical microbiology laboratories are associated with the larger hospitals. The types of work carried out are: (i) individual tests; (ii) epidemiological and hygienic tests of the community health type; (iii) the giving of advice on the prevention and control of infection; and (iv) co-operation with other clinics. Developments are aimed at reducing the staff and time needed for arriving at and communicating results. The Norwegian microbiology laboratory service is based on 14 laboratories at county, regional and national level, located in 12 towns. The national development plan to 1985 provides for the construction of one new county laboratory and the enlargement of four others. The short-term aim is to cover a requirement for 0.50 investigations a year per individual against a present 0.35, and to eliminate variations between the different provinces of Norway. The long-term aim is to cover 0.66 investigations a year per individual. Each laboratory has to be large enough to perform 100,000 to 150,000 tests a year and to absorb the expansion expected in the coming decades.

109. HOUTZAGER, W. J. J. Automatisering van het klinisch-chemisch laboratorium. **[Automation of the clinical chemical laboratory.]** *Technische Gids voor Ziekenhuis en Instelling*, Amsterdam, 1976, Sept. 28, vol. 45, no. 1111, pp. 549-551.

Scientific Data Systems BV, Amsterdam, has developed a system for the automation of laboratory administration. It involves a systematic study of the requirements of the user, and is 'on line', integrated, interactive, can be multiprogrammed and produces a wide range of reports. No computer is required. The installation consists of a master screen station for enquiries and sub-screen stations for requests and results. At the sub-screen stations registration takes place of the patient's particulars for printing on various labels and forms which indicate types of investigation, place, time, working methods, etc. Details of these forms are given. Results are later entered and made available on the screens in series or separately where and when required. They can then be printed and sent to the requester. Selected information can be extracted, new data added and alterations made. Data can also be supplied for statistical purposes, quality control and financial administration. The system is less expensive than a large computer system and the results satisfactory.

RADIOTHERAPY DEPARTMENT

110. CROSSLAND, P., HAYBITTLE, J. L. and JAMESON, D. G. **An on-line computer graphics terminal and radiotherapy treatment planning.** *British Journal of Radiology*, London, 1976, Oct., vol. 49, no. 586, pp. 868-874.

A programmed graphics terminal has been connected on-line to a large time-shared computer for calculating dose distributions in radiotherapy treatment planning and provides a viable alternative to dedicated systems and batch working. The on-line approach combines a relatively low-cost terminal to organize the interaction and display of results, with a large remote machine to deal with the computational load where the programs written in a high level language can be efficiently maintained and run. The experiment was jointly carried out at the Middlesex Hospital, London, and Addenbrooke's Hospital, Cambridge. The hardware and software are described. Data input is fully interactive and easy to understand; dose distributions are displayed as isodose contours. The advantages of the system include accuracy, speed, detection and correction of errors, ease of use and maintenance, and interchangeability of programs between host computers. The system has been favourably received by staff at both hospitals and has replaced existing manual and computer methods of treatment planning. Plans are more rapidly and accurately produced and it is now feasible to prepare alternative plans within a sensible time scale.

111. WHEELER, T. K., RUBERY, E. D. and HAYBITTLE, J. L. **A computer-based radiotherapy clinical record system using mark-sense forms.** *British Journal of Radiology*, London, 1976, Oct., vol.49, no. 586, pp. 863-867.

A computer-based system for radiotherapy clinical records at Addenbrookes' Hospital, Cambridge, is described. In considering its introduction there was concern that: (i) only a small amount of extra staff effort would be needed; and (ii) there should be a minimum likelihood of errors. The mark-sense document, which can be completed by the clinician as the means of recording the data, is described in detail. It is completed by drawing a line across a series of boxes with black fibre-tipped pens so that the marks can be translated onto paper tape for computer input. A plain language printout of the patient's record is produced after each updating. The programs are written in Fortran and are carried out on a Rank Xerox Sigma 6 computer. The system was introduced in 1974 and over 1,300 patients were recorded on the file in the first two years. The advantages of the system are outlined. Further programs are now being developed as the result of its success.

RADIOISOTOPE DEPARTMENT

112. ENT, G. M. van der. Veiligheid in het klinisch radioisotopenlaboratorium. **[Safety in the clinical radioisotope laboratory.]** *Technische Gids voor Ziekenhuis en Instelling*, Amsterdam, 1976, Sept. 28, vol. 45, no. 1111, pp. 546-547, 558.

Legal requirements for safety are discussed. A laboratory licence requires: proof of expertise on radioactivity; a layout designed to inhibit radioactive spread; limitation on areas where radioactive substances are used; use of materials and designs suitable for easy decontamination; prevention of internal contamination of staff; and limitation of radiation doses and number of radiological workers. There are no legal norms to protect

patients, which is left to the physicians. Examination courses on expertise are organized. A, B or C licences are granted according to amounts of radioactivity (C being the smallest amount) and type of radioactive substance used. Regulations to prevent escape of radioactive materials through ventilation, waste water, liquid and solid waste and accidents, require special filters, waste tanks before liquids enter the drainage system, controlled discharge, waste collection by approved firms, fireproof storage containers, etc. Other requirements include: all sink wastes leading into a waste tank; no outward opening windows; low air pressure; and an emergency shower for accidents on skin or clothing. Staff should be trained and issued with safety instruction sheets. Co-operation between laboratory and other hospital services is important.

REHABILITATION

See Abstract Nos. 148, 149

OCCUPATIONAL THERAPY DEPARTMENT

113. Cursus ADL-specialisatie in het verpleeghuis. **[A specialized ADL course in the nursing home.]** *Ziekenhuis*, Utrecht, 1976, Oct. 6, vol. 6, no. 19, pp. 510-513.

This paper reports a discussion on the results of a three-months ADL (activities of daily living) course, recently introduced for the nursing staff in Zuiderhout Nursing Home, Haarlem. It teaches them how to train patients physically to carry out their daily activities once discharged. Subjects taught are work/ergotherapy, physiotherapy, speech therapy and inter-human relationships. Results have been encouraging: inventiveness was stimulated, speech therapy was intensified, communication and human relationships between staff and patients improved, as did relations with other disciplines. The course, which was on a voluntary basis and fully attended, is still a 'home' course, but its aim is official recognition.

DEPARTMENTS FOR SPECIAL THERAPY

See also Abstract No. 77

114. BEAUDIN, R. D. and REID, I. **Organizing a respiratory technology department.** *Hospital Administration in Canada*, Don Mills, Ont., 1976, Aug., vol. 18, no. 8, pp. 28-29, 32.

Some of the more important services which a respiratory technology department should provide are listed in five groups: therapeutic, diagnostic, technical, educational, administrative and research. A respiratory technology committee is most useful. It should define the responsibilities of the service, conduct interviews with the medical staff to inform them of the services, take an inventory of existing equipment, visit similar departments in other hospitals, and plan the physical facilities. Space required is about 70 square feet per 1,000 yearly admissions, but will be largely determined by the services offered. The design should allow for adequate office space, cleaning and sterilization area, working space for repair and maintenance of equipment, storage space, ambulatory patient treatment area and, ideally, an area for pulmonary function

testing. The department should be gradually built up to provide a 24-hour, seven-day service. A staff of one technologist per 1,000 yearly admissions is suggested. The grades of staff and their responsibilities are listed.

115. FAZIO, J. C. **The nephrology social worker-patient relationship.** *Dialysis & Transplantation*, Sherman Oaks, Calif., 1976, Aug./Sept., vol. 5, no. 5, pp. 8, 10, 12-14.

The role of the social worker in a haemodialysis unit was examined by studying personality characteristics and relationships with clients. Methods used to assess the role were literature reviews, questionnaires and informal discussions and interviews. The results varied according to the methodology involved. Thirteen renal social workers from New York and New Jersey were analysed. Informal interviews and literature reviews indicated that dialysis social workers had caring personalities whilst formal tests indicated that social workers were average personalities with no outstanding traits. More research is needed into the field and should be directed at a larger and more representative sample of social workers.

INTENSIVE CARE UNITS

116. COLLINGS, T. and STONEMAN, C. **The M/M/∞ queue with varying arrival and departure rates.** *Operations Research*, Baltimore, Md., 1976, July/Aug., vol. 24, no. 4, pp. 760-773.

This paper derives the queue size distribution for infinite server queues with Poisson arrivals and exponential service times when the parameters of both distributions are allowed to vary with time. Both continuous and discrete variation are examined. Infinite server queues realistically describe those queues in which sufficient server capacity exists to prevent virtually any waiting time for customers. Such queues are not uncommon in the health services, when a delay in service can sometimes mean death. Studies of the queue problem were carried out in the intensive care units of four hospitals. The results show that it is unlikely that the hourly variation in the arrival rate of patients to the unit will significantly affect the number of beds occupied.

117. FABRICIUS-BJERRE, N. and others. **Problems in evaluation of coronary care units.** *Danish Medical Bulletin*, Copenhagen, 1976, Aug., vol. 23, no. 4, pp. 163-165.

Following some critical reports the value of coronary care units (CCUs) has recently been questioned. This study at Bispelsjerg Hospital, Copenhagen, revealed some sources of error, which may be present in other reports. During a prospective survey of patients treated in the CCU, 497 cases of acute myocardial infarction were found; a retrospective survey of the medical records of patients following discharge or autopsy revealed an additional 154 cases. The missed patients were significantly older and had a higher mortality rate. In 20 per cent of cases the infarction was suspected too late for the patients to be monitored; this group was also older and had a higher mortality rate. Finally, the mortality rate from each medical department proved to be correlated to the strictness of the final diagnosis, i.e. dismissing fewer patients as having no infarction was followed by a lower hospital mortality from infarction.

118. O'Rourke, M. F. and others. **Impact of the new generation coronary care unit.** *British Medical Journal*, London, 1976, Oct. 9, vol. ii, pp. 837-839.

The coronary care ward opened in 1971 at St. Vincent's Hospital, Darlinghurst, New South Wales, has 30 beds, six acute and 24 subacute. Up to March 1976, 3,353 patients were admitted to the ward. Most came from the emergency department, but 10 per cent were referred from other hospitals without comparable facilities. The unit has facilities for fluoroscopy, haemodynamic monitoring, mechanical heart assistance, and long-term electrocardiographic monitoring. It has operated at a reasonable cost for five years. Much of the work was entrusted to trained nurses, and there was close consultation with cardiac surgeons over those patients who needed catheterization or surgery. New procedures greatly reduced the numbers of early deaths from cardiac arrest and cardiac failure but had less influence on late mortality. Hospital mortality for all 3,353 patients was 6.8 per cent and for patients under 65 with definite infarction who were admitted direct it was 5.7 per cent, which compared favourably with those in the original coronary care unit. The results indicate that with longer ECG monitoring and appropriate antiarrythmic therapy hospital mortality may be further reduced. The advances in coronary care have led to a lowering of mortality rates and appear justified on economic grounds.

119. Griffin, P. T. **New cardiac surveillance unit combines functions of ICU & CCU.** *Hospitals*, Chicago, 1976, July 16, vol. 50, no. 14, pp. 111-114.

A new cardiac surveillance unit (CSU) has been built as part of the expansion scheme at Michael Reese Hospital and Medical Center, Chicago. The new CSU is one of the largest not only in size but in terms of the number of patients it can accommodate. The unit covers 5,000 square feet, and consists of 15 private rooms. The most sophisticated monitoring and computer equipment is used as well as the latest techniques in electrical safety and emergency power. The electrical design of the unit has established criteria for special care units now being planned. A nurse call system consisting of four types of calls (cardiac arrest, bath call, normal patient call and patient non-emergency) has been set up in each room to allow higher priority calls to override low priority calls. The monitoring system, which allows the nurse and doctor on duty to continuously monitor all patients from a single location, is described. The electrical distribution system and the grounding system are outlined. The generator for the system is monitored 24 hours a day and can be switched to the electrical service of the remaining patient area in an emergency. Electrical integrity was of utmost importance. All interfacing between the power supply, the monitoring system and the grounding systems between any two rooms was kept to a minimum, and all the power, nurse call and monitoring cables for each patient were routed in separate conduits and ducts.

120. Cochrane, A. M. G., Ghosh, P. and Evans, D. W. **Analysis of time intervals involved in admission to a coronary care unit.** *Journal of the Royal College of General Practitioners*, Edinburgh, 1976, Sept., vol. 26, no. 170, pp. 648-653.

Time intervals between the onset of the presenting symptom (chest pain) and arrival in a coronary care unit were studied for 221 admissions arranged by conventional means. The median figure for patient delay was 60 minutes, for general practitioner delay 20 minutes, for ambulance delay 30 minutes and for transit delay 30 minutes. The median total delay was three hours 30 minutes. Only 4.5 per cent of the patients

were under intensive coronary care within one hour, the time of the highest mortality risk. A mobile coronary service should be capable of increasing the proportion of patients brought under special care within the first hour, but the time taken by the patient to realize the nature of the emergency and summon aid is likely to remain the most critical factor.

121. CZACHOWSKI, R. E., REED, D. E. and PARRUCCI, D. J. **The effectiveness of mobile coronary care in a nonurban area.** *Journal of the American College of Emergency Physicians*, East Lansing, Mich., 1976, July, vol. 5, no. 7, pp. 501-504.

Westmoreland Hospital, Greenburg, Pa., and the Mutual Aid Ambulance Association have co-operated to provide a mobile coronary care unit (MCCU) for this semi-rural area with a population of 65,000. The MCCU is staffed by specially trained nurses from the hospital's coronary care unit. During an eight-month period, 225 patients received care from the MCCU; there were 29 deaths (13 per cent). A total of 126 patients (including the 29 deaths) were diagnosed as coronary disease cases, while 99 were released with non-cardiac diagnoses. The provision of definitive emergency medical care prior to admission to hospital resulted in eight lives definitely saved and seven possibly saved.

122. GEIER, R. von. Entwurf und Realisierung eines Systems zur rechnerunterstützten perinatalen Intensivüberwachung. **[Design and implementation of a system for computer-supported perinatal intensive care.]** *EDV in Medizin und Biologie*, Stuttgart, 1976, vol. 7, no. 2, pp. 47-52.

A system for the computerized analysis of the cardiotocogram (CTG), which records continuously intrauterine pressure and foetal heart frequency, is described in detail and illustrated by diagrams. This is an important aspect of perinatal intensive care. Real-time analysis is based on a large-scale computer.

SPECIAL HOSPITALS AND UNITS

OUT-PATIENT

123. SOHLBERG, L. Nyckel till bättre öppenvård: god planering. **[The key to better out-patient care: good planning.]** *Tidskrift för Sveriges sjuksköterskor*, Stockholm, 1976, Aug., vol. 43, no. 15, pp. 6-8.

Brobacken Health Centre, Gothenburg, had an appointments system with an average of six weeks' advance notice of time of consultation. Acute patients had no other recourse but to come to the centre and sit and wait. Telephone consultations were practically impossible. A registration-and-planning (RP) form is now used for booking patients on receipt of their telephone call. The patient's name, phone number, and disorder, and the advice given, are noted, and the patient can be given an appointment if necessary. At the conclusion of a personal consultation with a patient, the doctor fills in a new RP slip which the patient hands in at reception. Time of next consultation, sample-taking, etc., can be written in there and then or sent on by post. If the receptionist answering the phone call considers the patient needs to see the doctor, she

awards the patient a priority: (i) acute (immediate, or at a given time the same day); (ii) visit within a week; (iii) within three weeks; or (iv) not acute, visit within five or six weeks. The system also allows for the patient to be seen by the same doctor at most visits, instead of by the one who happens to be on duty. The clinic revises its six-week advance plan once a fortnight, reducing the priority category of waiting-list patients by one. The paper is illustrated by a photograph of the appointments and duty roster board.

124. LIGHT, H. L. and MATCH, R. K. **The potential of the teaching hospital for the development of prepaid group practices.** *Medical Care*, Philadelphia, 1976, Aug., vol. 14, no. 8, pp. 643-653.

Long Island Jewish-Hillside Medical Center, New Hyde Park, N.Y., developed a hospital-based prepaid group practice to improve the quality of care in its emergency and out-patient departments. Attempts to bring it to the level of in-patient care had been handicapped by: (i) inertia and natural resistance to change; (ii) the needs of professional staff to provide an arena in which young doctors could assume major responsibility for patient care; (iii) a belief that the patient population around the hospital was receiving more than adequate care from the fee-for-service doctor in the community; and (iv) the lack of any financial incentive to improve out-patient care. The historical background, the difficulties encountered in obtaining approval and the negotiations between the centre and the Blue Cross-Blue Shield of Greater New York as the insurance company are outlined. The methods used to achieve the desired goals and the development of the group are described together with the nature and degree of commitment required to develop the scheme. It is hoped that the future integration of Medicaid and Medicare patients into the scheme will serve as a model for other groups in the country.

125. SCHÖNING, G. von, OLLMANN, H. and VAUBEL, W. E. Der programmierte Arztbrief als Organisationshilfe in der Poliklinik. **[Programmed letters to doctors in the organization of the polyclinic.]** *Medizinal-Markt: Acta Medicotechnica*, München, 1976, Oct., vol. 24, no. 10, pp. 345-346.

A system for programmed medical letters, to enable hospital doctors to report immediately to referring general practitioners after examining a patient, is described. Each doctor has the handbook of code numbers covering diagnosis, prescribed treatment, out- or in-patient care, etc. He writes down on a form the appropriate code numbers which go at once to the typing centre where an original letter and five copies are typed. The original goes to the general practitioner; copy one goes on the medical record; copy two, relating to admission, goes to the secretariat; copy three is for any special department (e.g. physiotherapy) involved; copy four is for analysis of data; and copy five remains in the typing centre in case it is needed for future reference.

CASUALTY AND ACCIDENT

126. KELMAN, H. R. and LANE, D. S. **Use of the hospital emergency room in relation to use of private physicians.** *American Journal of Public Health*, Washington, 1976, Sept., vol. 66, no. 9, pp. 891-894.

Following reports of increased inappropriate use of the casualty department by

individuals who had their own doctors, a study was made of the health and social circumstances of families using the casualty department of a hospital in a suburban, semi-rural area in the United States. The changes required in hospital policy and procedures were also analysed. A random sample of 95 interviews with patients who had their own doctor and 80 interviews with patients who did not was analysed. The results indicated that certain strategies proposed for dealing with the volume of patients and the urgent/non-urgent mix would not be applicable. The problem confronting the casualty department was not one of inappropriate use but the limitations in the existing pattern of work between community doctors and the hospital service. The symbiotic relationship between the casualty department and the doctor indicates that further increases in use are likely if the casualty department is made more efficient and attractive. This consideration should not be used as an argument against up-grading the services as there are many compelling reasons for so doing beyond the limited expectations for altering the volume and mix of the patient population as suggested by the findings.

DAY HOSPITALS

See Abstract Nos. 134, 150

INFECTIOUS DISEASES AND ISOLATION

127. WOODRUFF, A. W. **Handling patients with suspected Lassa fever entering Great Britain.** *Bulletin of the World Health Organization*, Geneva, 1975, July, vol. 52, nos. 4/5/6, pp. 717-721.

A special isolation unit has been created at the Hospital for Tropical Diseases, London, for the reception of patients arriving in Great Britain from West Africa with suspected Lassa fever. The unit consists of a two-bed room with self-contained lavatory and bathing facilities and telephone inter-communication. It is approached through two air-locked doors and the whole unit is equipped with powerful exhaust ventilation. The management of the patient and routine procedures for attending and caring for the patient are described. Experience during the first 18 months of operation has been satisfactory and valuable lessons have been learnt concerning the diagnosis and treatment of Lassa fever.

CHILDREN

128. IODICE, C. **Children in hospital—the part a-v can play.** *Visual Education*, London, 1976, Oct., pp. 17-18, 22.

Middlesex Memorial Hospital, Middletown, Conn., has developed a series of programmes and techniques using audio-visual material to help children learn more about their anticipated stay in hospital. The methods used include: pre-operative home visits; group pre-operative reading sessions; therapeutic play schemes; puppet shows; role playing; hospital-related colouring book; demonstrations and simulations; notice board displays; and staff development schemes. The use of these methods and play schemes is discussed. The response of parents to the multi-media approach has been

favourable. Each of the techniques can be adapted for use in the classroom at all levels in any paediatric hospital. A non-comprehensive list of publications available in the United Kingdom is included as an appendix.

129. REITOV, J. Undervisning af hospitalsindlagte børn og unge ved somatiske sygehuse. **[Teaching child and adolescent patients in a general hospital.]** *Sygeplejersken*, København, 1976, Sept. 8, vol. 76, no. 35, pp. 14-18.

Instruction of school-age children in hospital is the responsibility of the local authority in whose area the hospital is situated, and schooling is bound by law to start as soon after admission as possible (maximum three weeks). Each area now has a teaching consultant on whom the hospital can call for advice. The aims of teaching are: (i) the normal educational functions; (ii) the diagnostic/therapeutic function, particularly for patients with psychosomatic problems; and (iii) the mental health function, occupying the patient's mind with familiar, meaningful tasks. Organized hospital teaching in Denmark only began about 15 years ago, and most attention is given to the teaching of Danish and arithmetic. Conditions in Denmark are compared with those in England, where the first hospital school was started at Alton in 1912, and in Sweden, where sporadic school assistance was first given to young patients in 1933. The Danish Ministry of Education is currently organizing courses to train teachers for hospital work. It is important for the nurse to co-operate with the doctor to ensure that continuous teaching is rapidly instituted. The concept of schooling in hospital should be established in basic and further training courses for all nurses.

130. ZACHARY, R. B. **The neonatal surgeon.** *British Medical Journal*, London, 1976, Oct. 9, vol. ii, pp. 866-869.

The role of the neonatal surgeon and the number and range of problems seen in the neonatal surgical ward of the paediatric surgical unit of Sheffield Children's Hospital are discussed. The history of the unit in its first 12 years is outlined together with the need for close teamwork between all staff. Training in neonatal surgery, with special reference to training schemes, recognized hospitals and influencing factors during training is considered with special reference to total care. The organization of neonatal surgery in Britain and the ethical responsibilities of the neonatal surgeon are discussed.

GERIATRICS AND LONG-STAY

See also Abstract Nos. 13, 100

131. JESSEE, W. F., FORD, L. G. and PEBBUTT, J. S. **Implications of PSROs for long-term care.** *Hospitals*, Chicago, 1976, Aug. 1, vol. 50, no. 15, pp. 140, 142, 144, 146, 148, 150.

The implications of professional standards review organizations (PSRO) assuming responsibility for reviewing the care provided in long-stay care facilities in the United States are many. However, recent legislative changes in the method of financing PSRO reviews indicate the possibility of more rapid growth in PSRO long-stay care review activities. The development of guidelines for PSRO review of long-stay care must be based on three factors: (i) long-stay patients and the care they receive are different from

patients in acute hospitals; (ii) there are major differences in the availability of staff and physical resources in long-stay facilities as opposed to hospitals; and (iii) effective systems for reviewing medical need, quality and appropriateness of care, developed by institutions, state government agencies or medical organizations should be used as the basis for a PSRO long-stay care review system. A model developed by the Bureau of Quality Assurance includes: (i) patient assessment and review on admission; (ii) continuing patient reassessment; (iii) medical care evaluation; and (iv) a profile analysis. The merits of the system are considered. The problems and prospects for PSRO long-stay care review systems are outlined together with several recommendations. PSROs have a considerable potential for improving the quality of care, but full realization of the potential awaits further assessment of the costs, effectiveness and impact on quality of the model PSRO long-stay care review scheme.

132. CHISWICK, B. R. **The demand for nursing home care: an analysis of the substitution between institutional and non-institutional care.** *Journal of Human Resources, Education, Manpower, and Welfare Policies*, Madison, Wis., 1976, vol. 11, no. 3, pp. 295-316.

The demand for nursing home care for the aged in the United States is analysed. Since 90 per cent of nursing homes house residents of 65 or over the variable used in the study is the number of residents in nursing homes per 1,000 people aged 65 or over in the population. Cross-sectional analysis using standard metropolitan statistical areas reveals a high elasticity of demand for care (—2.3) and a high substitution rate between care provided in an institutional setting, a nursing home and non-institutional care. The demand is greater the less capable are the aged to provide their own care (as measured by age, sex and health), the better the job opportunities of adult women, and the greater the income. A supply and demand model is developed and estimated empirically to explain the growth of nursing home care from 1963 to 1973. The effect on utilization of government intervention in the nursing home sector during this decade is considered, and although the share of nursing home expenditure paid by consumers declined from 62 per cent in 1963 to 49 per cent in 1973 private expenditure per resident increased by 60 per cent, indicating that private prices did not fall and probably increased in spite of government subsidies. The certificate-of-need legislation appears to have been introduced too late in the decade to have influenced the observed patterns. Increased demand for nursing home care will not be the consequence of public policy but will have great influence on public policy.

133. SCHUBERT, R. and FÜSGEN, I. Chronisch-kranke alte Menschen im Krankenhaus. **[The chronic geriatric patient in the general hospital.]** *Fortschritte der Medizin*, München, 1976, Oct. 14, vol. 94, no. 29, pp. 1651-1657.

Of 25,342 women and 20,189 men admitted to a Nuremberg hospital in 1974, 27.6 per cent of women and 31.8 per cent of men were aged 60 or over: for admission to medical wards only, these figures were 49 per cent and 44.1 per cent respectively. About 50 per cent of patients occupying acute beds were chronically ill. To avoid the unnecessary occupation of expensive acute beds it is suggested that a system of progressive care should be developed for elderly patients. Once the acute stage of illness is over they should be transferred, according to individual need, to a geriatric ward, a rehabilitation ward, or what is called a 'social ward' (for patients who need to stay in

hospital for social rather than medical reasons). As a halfway stage between in-patient care and full discharge, attendance at day hospitals is also recommended. This would not only be to the advantage of patients but would also reduce costs.

134. Ross, D. N. **Geriatric day hospitals: counting the cost compared with other methods of support.** *Age and Ageing*, London, 1976, Aug., vol. 5, no. 3, pp. 171-175.

The past decade has seen a great expansion of the day hospital element in geriatric and psychiatric care. The merits of day care have been described quite often, but with little reference to the economic benefit to the community. This paper describes an enquiry into the true cost of a typical 'intermediate' day hospital, that at Blawarthill Hospital, Glasgow. The estimated cost of the unit per out-patient per day, including all salaries and services such as heating and catering, amounted to £4.00 over the financial year 1973-74 with an extra £2.00 for ambulance service. The average patient attending a day hospital for two days a week is maintained at the reasonable cost of £12.00 per week, but when a patient has to attend for four or five days weekly and other health and social services costs are added, then the balance sways against this type of maintenance. However, the social and psychological advantages of living in one's own home cannot be quantified.

CANCER

135. Miller, C. L., Denner, P. R. and Richardson, V. E. **Assisting the psychosocial problems of cancer patients: a review of current research.** *International Journal of Nursing Studies*, Oxford, 1976, vol. 13, no. 3, pp. 161-166.

This paper reviews current research concerned with: (i) the nature of the reactions and the defence mechanisms used by cancer patients in coping with the stress produced by the diagnosis; and (ii) the available successful methods for assisting cancer patients with their psychosocial problems.

CARDIOLOGY

See Abstract Nos. 117-121

UROLOGY

See also Abstract No. 115

136. Renal Association. **Distribution of nephrological services for adults in Great Britain: report of the Executive Committee.** *British Medical Journal*, London, 1976, Oct. 16, vol. ii, pp. 903-906.

A survey was carried out to discover how many doctors in Great Britain were providing nephrological services, including renal replacement. Great Britain was divided into five geographical areas. The number of doctors in each region correlated closely with the size of population, although the relationship between the number of sessions they provided and the size of population was not as close. The number of sessions provided correlated with the number of patients on dialysis and the number of out-patients seen each week. The findings indicated that nephrological services were

unevenly distributed throughout the country, while patients with renal disease are probably evenly distributed. The numbers needing treatment rise from 33 per million per year up to the age of 55 to about 40 per million per year up to the age of 60. Even in the regions providing most sessions demand still exceeds supply. Only 62.0 patients per million were being treated in Britain for terminal renal failure at 31 December 1975 whereas 136.1 per million were treated in Switzerland and 132.4 per million in Denmark. Despite all the deficiencies doctors attempt to see all patients with a renal disorder at least once and to treat acute renal failure, although many patients are not followed up.

SURGERY

See Abstract Nos. 32, 130

MATERNITY

See also Abstract Nos. 73, 122

137. FERSTER, G. and JENKINS, D. M. **Patterns of antenatal care, perinatal mortality, and birth-weight in three consultant obstetric units.** *Lancet*, London, 1976, Oct. 2, vol. ii, pp. 727-729.

A study was carried out of the antenatal care provided at three consultant units in Britain, and the provision of resources compared to pregnancy outcome. An information and classification system was developed based on the pattern of patients' visits to general practitioners or community midwives and to the consultant obstetric unit clinic on a weekly basis until the 37th week of gestation, then daily until the confinement. Details of age, parity, socio-economic grouping of the patient, tests given, type of delivery, length of postnatal stay, birthweight and the babies' condition were collected. The results suggest that antenatal care operates differently in the three consultant units; they also indicate a possible advantage for patients receiving consultant-unit care at some stage of their pregnancy, since pregnancies resulting in perinatal deaths may not always receive appropriate obstetric care.

PSYCHIATRY

See also Abstract Nos. 41, 44, 45

138. FOWLES, M. W. **Origins of the special hospitals.** *Update*, London, 1976, Oct. 1, vol. 13, no. 7, pp. 679-680, 682, 684-685.

The history and development of the three special hospitals of England and Wales (Broadmoor, Rampton and Moss Side) is discussed from their origins in 1800 to the present day. The three hospitals are now controlled by the Special Hospital Division of the Department of Health and Social Security and all patients are detained under legal sanction. The total number of applications for admission is around 530 a year and between 40 and 50 patients are re-admitted each year. The ratio of males to females is 4:1. There is a slow patient turnover (nearly 300 leave each year out of a total population of about 2,200) since the nature of the patient's disorder usually requires prolonged observation and treatment.

139. BOTT, E. **Hospital and society.** *British Journal of Medical Psychology*, London, 1976, June, vol. 49, no. 2, pp. 97-140.

This paper considers the many changes in psychiatric treatment and in the organization of the mental health services. In spite of the changes psychiatric hospitals are still constrained to perform the task they have always carried out for society which is to temporarily or permanently remove from their place in society people who are socially defined as mentally ill. The old custodial function remains, but a new short-stay function has been added. The changes and the continuity of use people make of hospitals are discussed; although there has been a large increase in short-stay patients there has been little increase in the number of long-stay hospital residents. Whether the patients end up as long-stay or short-stay residents depends upon whether the hospital or society offers a more stable place for the patient to live in. The social processes of admission and long-stay care are considered. Internal hospital structure and the effect upon the patient are discussed. The intrinsic conflict between the individual and society is seen within hospital activities and organization. The hospital acts in the interest of the relatives and of society, however much the staff want to act in the interest of the patients and the individual.

140. FELICETTI, D. A. **Mental health and retardation politics: the mind lobbies in Congress.** New York & London, Praeger, 1975, xii, 199pp. £9.10

This volume describes how organizations in the United States concerned with the care and treatment of mental diseases and mental handicap have banded together to inform members of Congress of the problems in this field and to influence mental health legislation.

141. ROSENBERG, C. M. and RAYNES, A. E. **Keeping patients in psychiatric treatment.** Cambridge, Mass., Ballinger, 1976, xi, 168pp. £10.40

This is a review of the literature on the way in which mental illness is treated,with emphasis on the United States. In addition to an introduction and final overview, there are chapters on: entering psychiatric treatment; number of patients attending; patient-related variables; the therapist; treatment variables; dropouts in other branches of medicine; and compliance. A list of 238 references to the literature is included.

142. WESTLAKE, R. J., editor. **Shaping the future of mental health care.** Cambridge, Mass., Ballinger, 1976, xi, 121pp. £8.25

This book presents edited versions of the papers presented at a two-day symposium held at Butler Hospital, Providence, R.I. in the spring of 1975. The papers are position statements from nationally recognized spokesmen from the various interests in mental health. They describe some possibilities for constructive change, examine resistance to change and discuss problems connected with the concept of insurance for mental health.

143. TUTT, P. M. **Acute psychiatry within a general hospital.** *Nursing Times*, London, 1976, Sept. 30, vol. 72, no. 39, pp. 1529-1531.

Yeovil District Hospital has opened a 20-bed acute psychiatric ward as a new venture. The aims and how to make psychiatry an acceptable addition to the district general

hospital are discussed. The need for a psychiatric service to extend to the casualty and out-patient departments and for the medical and nursing staff to learn from the constantly varying situations that arise are considered. By having both medical and psychiatric fields under one roof there can be a two-way exchange of experience and instruction. The social stigma for the patients is removed and transport problems are decreased. The problems for the psychiatric nurse in this new environment are: (i) the need to create the correct environment; and (ii) the extent to which the nurse must alter his approach to acute psychiatry, if at all. The full development of the department is dependent upon the attitudes and thinking of the senior nursing staff. Possible services might include a crisis intervention service, involvement in general student training, and psychiatric study days. Without support from the senior nursing staff the department will not be able to work to any advantage.

144. BJERRE, A. and others. Sygeplejerskens arbejdsområde på en psykiatrisk afdeling: sygeplejefagligt har sygeplejersken fået selvständigt ansvar. **[The scope of the work of nurses in a psychiatric department: professionally the nurse has gained independent responsibility.]** *Sygeplejersken*, København, 1976, Sept. 8, vol. 76, no. 35, pp. 4-7, 19.

There has been a gradual change of attitude towards the psychiatric patient from that of someone who is 'ill' to that of a fellow human being with healthy facets to his or her nature, which can be supported and built on. The institution no longer acts as a protective shield round the patient but expects him to share responsibility for what happens to and around him. Uniforms are on the way out, and the nurse's task is evolving from obedience to doctor's orders towards personal professional responsibility within the team. Nursing training has not kept up with these developments, tending to oppose the concept of integration of the nurse into a therapeutic team. The ward team stresses the importance of contact with the patient's family and the community as a whole, regardless of method of treatment. Thus all patients not admitted as emergencies visit the hospital in advance with relatives, and are shown round by in-patients and a member of staff. All staff and patients meet for a daily planning meeting, and all new patients take part in daily group meetings. In addition, there is a daily staff conference. Patients can take part in various groups such as an occupational therapy group or a youth group. Integration of the open and closed wards has been followed by common staff group meetings, earlier discharge of patients, more effective use of staff, and extended excursions for patients. Patients and staff use the same canteen. Shortage of funds has, however, led to many unsatisfactory compromises.

145. SIEGEL, C. and GOODMAN, A. B. **An evaluative paradigm for community mental health centers using an automated data system.** *Community Mental Health Journal*, New York, 1976, vol. 12, no. 2, pp. 215-227.

A study by the National Institute of Mental Health was carried out to develop a methodology for evaluating community mental health centres using data routinely collected by the Multi State Information System [see *Hospital Abstracts*, Vol. 16, Abstract 608]. The aims of the study were to: (i) develop techniques that could be superimposed onto an already working information system; (ii) develop an approach that would be applicable to any community mental health centre; and (iii) develop

indices that were to examine patient care at several stages—admission, initial modality of service, service delivery and termination. Four community mental health centres with varying catchment areas were studied separately. The methodology and findings are discussed. A generalized evaluation paradigm was developed to analyse the stages of care for each centre, and the methodology produced useful and informative data. This paradigm may be applied to any community mental health centre.

146. JONES, B. E. and MILES, J. E. **The nurse and the hospitalized mentally ill physician.** *American Journal of Nursing*, New York, 1976, Aug., vol. 76, no. 8, pp. 1314-1317.

The psychiatric patient who is also a doctor presents special problems for the medical and nursing staff who care for him. In a five-year period a voluntary in-patient unit of the Department of Psychiatry, Health Sciences Centre Hospital, University of British Columbia, Vancouver, admitted 20 male doctors. Diagnoses varied, but there were common characteristics between doctor-patient behaviour and staff reactions. The majority of doctors did not accept the patient role easily. When the doctor acknowledged he was ill he tended to regard the illness as entirely his fault. He was reluctant to give up his work and many were unwilling participants in the treatment process and consequently staff had to offer rather than impose treatment. Many minimized their symptoms and the circumstances resulting in a hospital stay, and continued to maintain their role as a doctor. The nurse-doctor relationship is discussed. The most effective management approaches were those which recognized and used to best advantage the doctor's methods of avoiding the patient role. Support is needed for the nurse in dealing with the frustration of the patient who requests premature discharge. The root of the problem is the doctor-patient's dependence-independence struggle; the nurse must be aware of her own feelings before she can put her expectations of the patient-doctor into correct perspective.

147. THULLESEN, I. L. and NIELSEN, A. G. P. Patienter bidrager til en helbredende social organisation. **[Patients contribute to a therapeutic social organization.]** *Sygeplejersken*, København, 1976, Sept. 1, no. 34, pp. 4-10.

Dianalund Sanatorium, which specializes in the treatment of neuroses, has six wards, each with 20 mixed patients. The routine is based on a weekly meeting with representatives from the other wards and of the doctors, psychologists, almoners, canteen staff, physiotherapists and occupational therapists, plus an occasional meeting of the entire staff. Other groups involved in the planning and conduct of therapeutic project work are: co-ordinating committee; contact group (a staff-patient team); paintings selection committee (six patients, two staff); woodlands walk group (six patients, two staff); transport group (six patients, two staff); entertainments committee (six patients, three staff); staff feedback group (seven staff); nursing staff supervision committee; and sisters' committee. The four guiding principles in committee work are democratization, permissiveness, group responsibility, and confrontation with reality. Tasks planned and carried out by one ward's patients include cleaning, the weekly group meeting, smaller group therapeutic and feedback meetings, and editorial work on the ward 'log book'. The paper is illustrated by a block diagram showing the lines of communication and decision-making in the sanatorium.

148. SERGEANT, H. **Rehabilitation of psychiatric patients who stayed in hospital more than one year.** *Psychological Medicine*, London, Aug., vol. 6, no. 3, pp. 493-504.

Friern Hospital, London, is divided into three clinical divisions representing the three London boroughs the hospital serves. With the aim of seeing how far each long-stay patient could be rehabilitated and, when feasible, resettled, the Islington wards were grouped into three units: admission (three wards); psycho-geriatric (three wards); and rehabilitation (10 wards). Fewer than half (238) of a cohort of 489 psychiatric patients who had stayed in hospital more than one year were still in hospital three years later. One-third of these 'old' long-stay patients (170) were discharged and resettled; 81 elderly patients had died. During the same three years, a further 108 patients became 'new' long-stay; 57 remained at the end of the study. The discharged patients were neither readmitted unduly often, nor did they become destitute.

149. BENNIE, E. H., LIVINGSTON, E. and WEBB, A. G. **A rehabilitation programme for long-term psychiatric patients.** *Nursing Times*, London, 1976, Aug. 26, vol. 72, no. 34, pp. 1325-1327.

Leverndale Hospital, Glasgow, provides comprehensive care and treatment for the psychiatric patient. Ward staff have been encouraged to develop specific skills in order to cater for the various needs of the chronic patients. A modified therapeutic community style of ward management directed towards the rehabilitation of patients in the general community has been introduced into the intermediate-stay rehabilitation unit. The activities are outlined and the outcome of the treatment of the patients is analysed. From the original number of 20, two were discharged to the community, 14 were transferred to long-stay wards and four remain within the rehabilitation unit. Of the 28 subsequent admissions 11 are now in the community, 15 are in the rehabilitation ward and one has been transferred to another psychiatric hospital. The new approach has been associated with an improvement in the patients' behaviour and work record, and all the young schizophrenic patients referred for long-term care have been rehabilitated to the community.

150. FAIRCLOUGH, F. **Community and day hospital care.** *Nursing Mirror*, Sutton, Surrey, 1976, Aug. 5, vol. 143, no. 6, pp. 67-68.

In the past patients suffering from psychiatric illness were only treated in psychiatric hospitals, locked in their wards for their own safety and the safety of the community. The problems created were: (i) overcrowded psychiatric hospitals; (ii) need to 'certify' patients; (iii) institutionalization of patients; and (iv) lack of confidence on discharge. To overcome the situation and maintain home life the Liverpool Psychiatric Day Hospital provides day care for psychiatric patients, accommodating 40 patients at any one time. Up to 120 patients a year are accepted on referral from psychiatric clinics, general practitioners and the mental health services. The criteria for suitability are: (i) reasonable standard of behaviour; (ii) a moderately secure home background; and (iii) reasonable access to the hospital. The staffing of the hospital is described. There are two out-patient sessions for new referrals each week. The day is divided into two sections for day patients, occupational therapy and group activities. A community nursing service giving after-care has been established. The Day Hospital has been also designed as a treatment centre for registered drug addicts. The team spirit in the

hospital encourages use of initiative by the staff. A facility to care for mothers and babies has been developed. The advantages of the Day Hospital are that all modern treatments and medicines are available, whilst maintaining the familiar home surroundings.

151. Inrichtingen voor geestelijk gehandicapten: een vergelijking tussen kleine, grote en nauw samenwerkende kleine inrichtingen. **[Establishments for the mentally handicapped: a comparison between small, large and closely cooperating small establishments.]** *Instelling-Management*, Amsterdam, 1976, Sept. 29, vol. 8, no. 9, pp. 18-19.

In comparing small (100 to 130 places) and large institutions (over 350 places), the financial-economic and social-psychological aspects are considered separately. A brief analysis of investment in land, buildings, installations, equipment, residential layout, costs of administration and hospital services, training of staff, and bulk buying, suggests some overall 10 per cent economic advantage in favour of large establishments, which are partly reflected in smaller fees. But small establishments score on a more intimate atmosphere, better preparation for integration of patients in normal society, easier purchase of building land, staff accommodation, and better social contact between different groups. Grouping together of small, closely co-operating establishments could provide the advantages of both aspects while avoiding the disadvantages. Co-operation should include joint management and administration, staff training and buying, an admission policy, specific specialization, and centralization of domestic and technical services.

152. Liu, M. C., Hughes, M. W. and Ashton, L. M. **A predischarge unit in a long-stay hospital for subnormality.** *British Medical Journal*, London, 1976, Oct. 16, vol. ii, pp. 921-922.

A newly-built 20-room residential ward in the grounds of Monyhull Hospital, King's Norton, Birmingham, was converted into a 17-bed pre-discharge unit for those mentally handicapped patients who could be discharged after some special training. Included in the unit are an office, a kitchenette and a restroom. The unit is run by a multidisciplinary team composed of a psychiatrist, medical staff, social workers, nurses and psychologists. The policy and selection of the patients is outlined. At present only women aged 16 and over are being selected. The patients spend one to two years in the unit. Those selected have to: (i) have a stable and sociable personality; (ii) be capable of holding down a job; and (iii) be independent and able to look after themselves. The training covers three areas: broad education, social education and working discipline. During the past two years, 31 patients have been trained; 18 have been discharged to community homes and 5 are waiting for discharge. The high success rate (58 per cent) shows the value and usefulness of a pre-discharge unit in a long-stay hospital, and also demonstrates that a purpose-built building is not necessary.

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